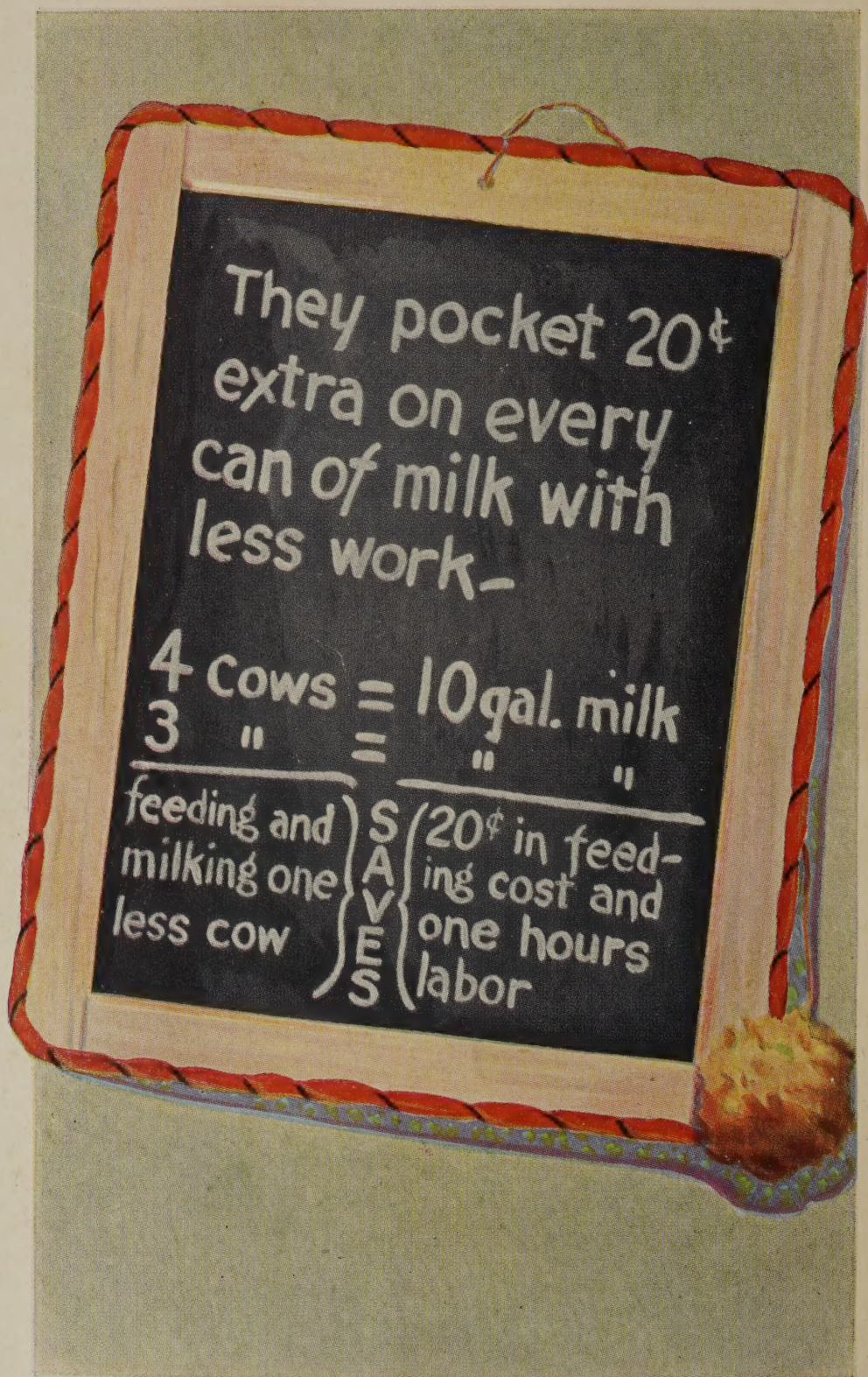


40,000
Dairymen
tell how -



40,000 Dairymen Tell How—



They save 25c a hundred in feeding cost and nearly as much again in labor

They Know

—That a cow eats the same amount of hay (or other roughage) whether she gives $\frac{1}{4}$ of a can of milk or $\frac{1}{3}$ of a can.

*Same roughage per cow
but less roughage per can.*



—That when 30 pounds of grain makes 90 pounds of milk, it makes no difference whether it's eaten by three cows or four cows.

*More grain feed per cow
but no more per can.*



—That they get plenty of *exercise* without hauling fodder, milking, and cleaning the barn. They keep their cows for profit.

*No use in getting a can of
milk from 4 cows when
you can get it from 3, and
put more money in your
pocket.*



What 40,000 Dairymen Say

We used to get a can of milk from every four cows. Since we've adopted the Purina Plan we make a can of milk from every three cows.

Most cows eat all the roughage you give them, regardless of milk production. We have increased our milk production per cow without increasing the roughage they eat.

When we make a can of milk from three cows instead of four—



we save a day's feed of roughage, worth about 20 cents.

We found that our cows would increase a little if they got the right feed, and now every cow gets a little more grain feed. But we still get just as much or more milk per pound of feed, so there's no extra cost for grain.

What's the use of milking and caring for four cows for the same sized milk or cream check that we can get from three cows? We save an hour's work to a can of milk by following the Purina Plan on the next page.

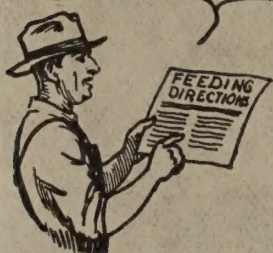
The Purina Plan for Dairy Farmers

Used Profitably by 40,000

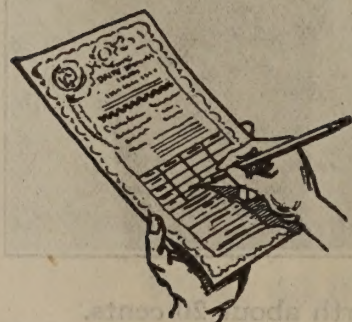


1. Raise all the feed you can.
(legume hay when possible.)

PURINA RATION
NO. 3 FITS MY
ROUGHAGE.



2. Use just enough Purina to supply what your own feed lacks.
Read the directions in the bag.



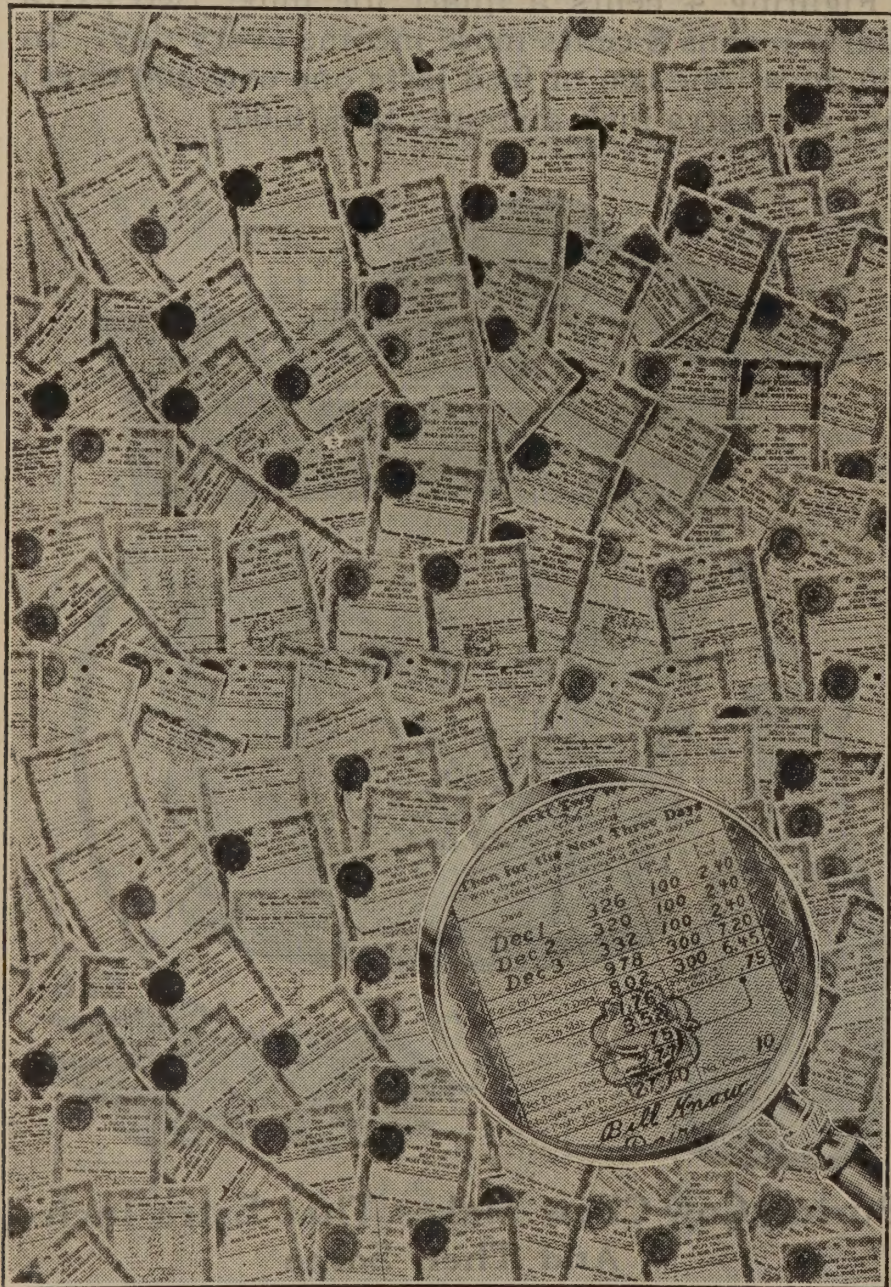
3. Take a few moments to figure out your present milk and feed costs before you start on Purina,

4. Sixty days later, figure your costs again, and use the feed that makes you the most money.

Four Million Dollars Extra from the Purina Plan

Last year cow-owners in the United States and Canada increased their income over feed cost by the use of the Purina Plan. The extra net profit to them was over \$4,000,000.00.

They said "what's all the rumpus about feeds?". If the Purina Mills offers us a speedometer card to check our feed costs, we'll sure use it. And they did. There's a speedometer card for you on pages 97 and 98.



One Extra Inch of Milk Is Worth \$16.00 To You

A 10 quart milk pail is about 10 inches high, so one inch in height equals one quart. When you get just one inch more at a milking that means two extra quarts of milk a day.

Figuring 4 cents a quart for milk, two extra quarts means 8 cents more income every day. In 200 days (one ton of feed lasts one cow 200 days) that one extra inch amounts to \$16.00.



**Purina Cow Chow Makes That Extra Inch—
And Then Some**

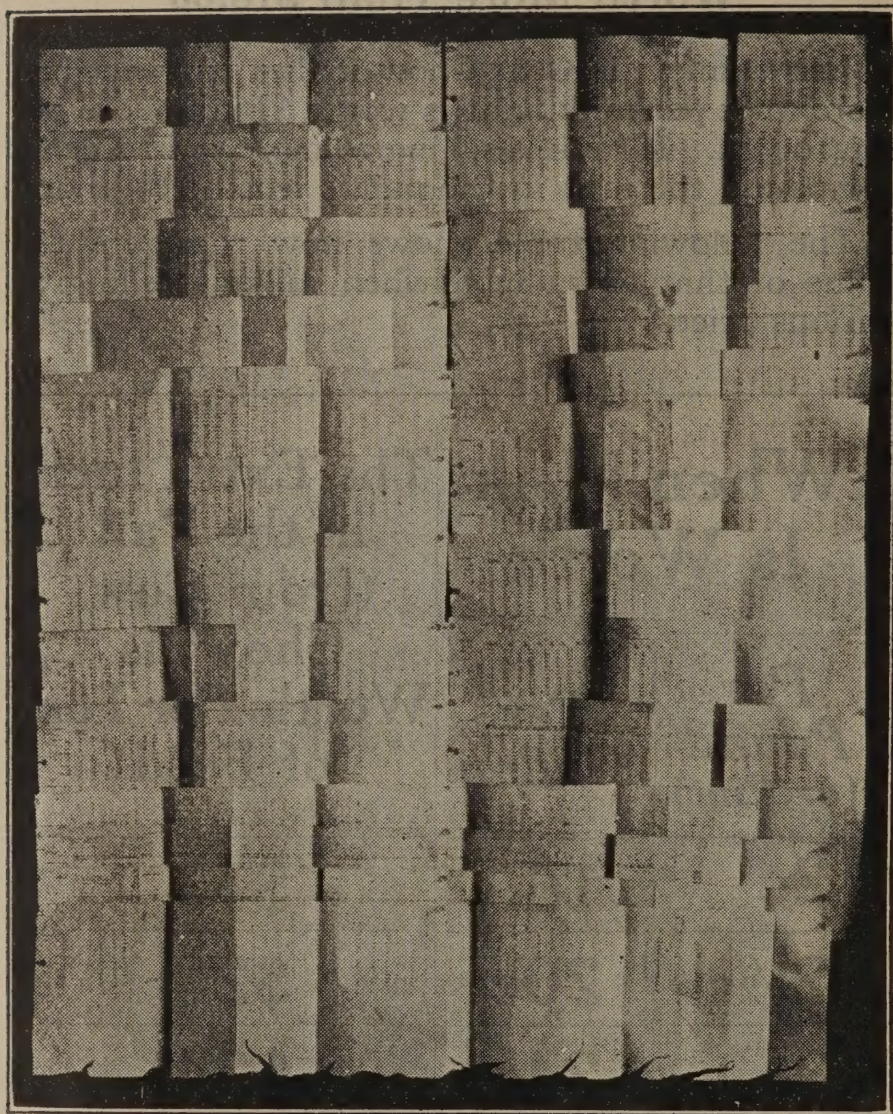
When An Inch of Milk is Worth More Than \$16.00

Just think! If Cow Chow makes only an inch more milk per milking it is worth \$16.00 more per ton to you. If milk is selling at more than 2 cents per pound the inch in the pail is worth still more.

The following table shows how to figure the value of that extra inch when milk is selling at various prices:

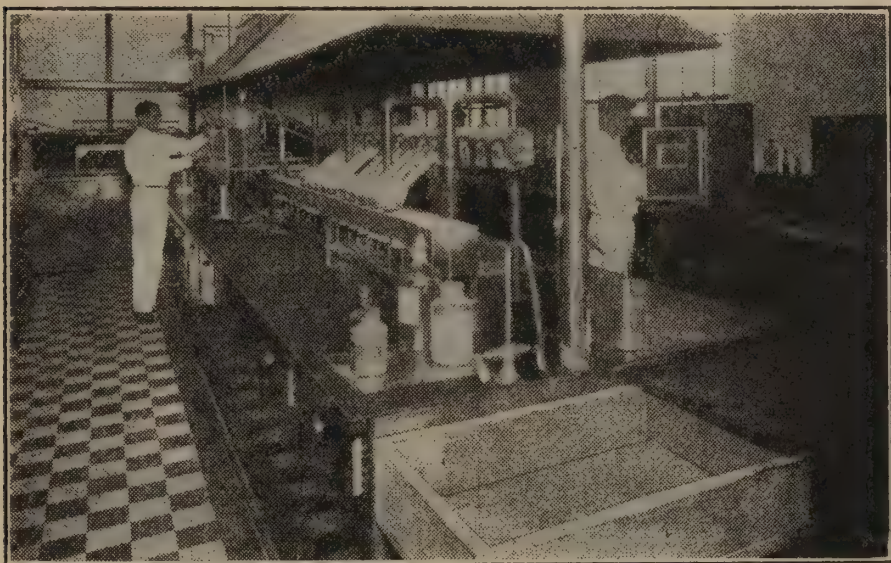
When Milk Is Worth		The Extra Inch in the Pail (from Cow Chow) is Worth, Per Ton of Feed
<i>Per Pound (or Pint)</i>	<i>Per Gallon</i>	
2c	16c	\$16
2½c	20c	\$20
3c	24c	\$24
3½c	28c	\$28
4c	32c	\$32
4½c	36c	\$36
5c	40c	\$40

Two Hundred Eighty-Eight Thousand

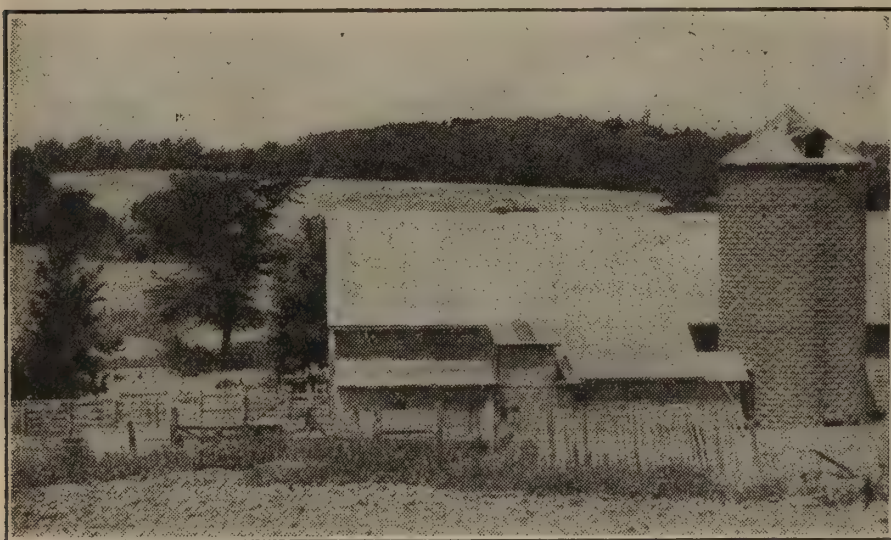


288,000 individual milkings and feedings were tabulated in this one Purina experiment.

Cow Chow has been changed only twice in the past 11 years. Each change has been made only after the most careful and repeated tests to determine beyond the shadow of a doubt, that the new Cow Chow makes more money for the man who feeds it.



Chemists analyzing ingredients in the Purina Laboratory.



One Purina Experimental Farm where practical experiments are being carried out to improve Purina Chows. Not a "fancy" farm, but one where low costs count.

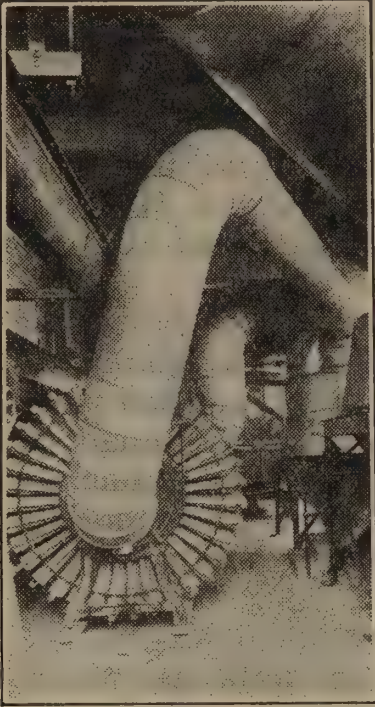


Some of the many calves fed on different experimental Calf Chow rations last spring. Such practical experiments make Calf Chow the best milk substitute that science can produce.

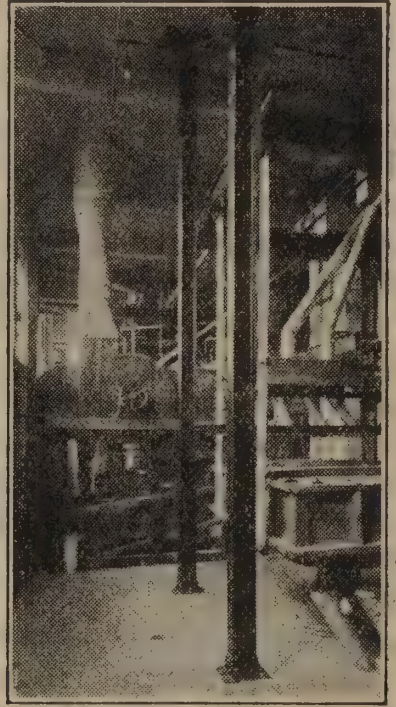


Here's where Cow Chow is mixed. Note the great paddles that mix and remix Cow Chow 960 times before it goes into the bag.

A man could shovel feed all day and never get it half as well mixed as this great mixer can make it in a few minutes.



Purina dust collecting system to keep dust and chaff and light grains out of Purina Chows.



Grain cleaning room where grains going into Purina are thoroughly cleaned.



Huge machine that draws out wire and metal from grains that go into Purina. Note the pile of junk on the floor.

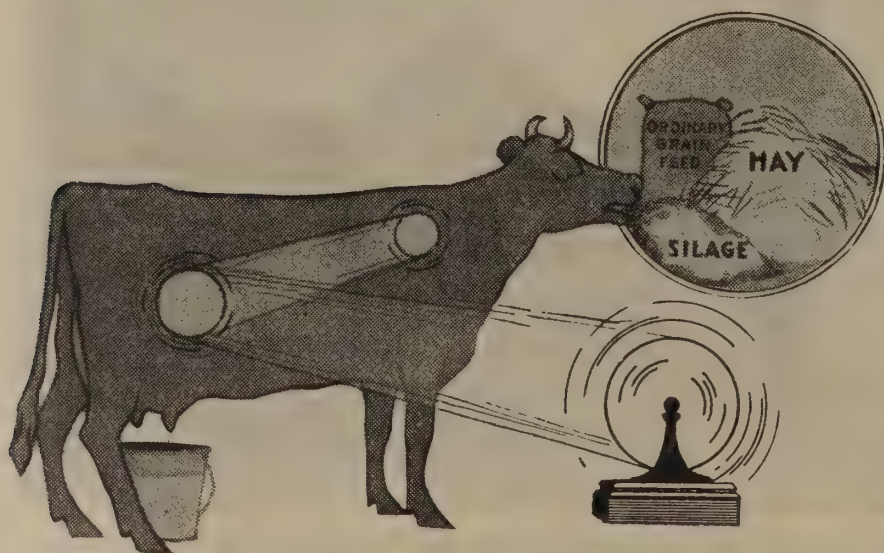
Can a Cow Give Dry Milk?

Did you ever have the water system freeze up and your cows be without water for a while? If so, they went down on their milk, but they didn't give milk with any less water. If a cow got no water at all for 24 hours she wouldn't give dry milk—she'd give less milk.

That is because milk is made for the young calf, and nature will not allow the glands to make milk one way today and another way tomorrow. Outside of a few slight changes it runs just about the same, so that the stomach of the calf will not be upset. The cow gives more or less milk according to the quantity and quality of her feed.

Lots of Water

The principal ingredient in milk is water. Authorities say that in summer a cow should drink about 5 times as much water as she makes milk. The 4 gallon cow should drink 20 gallons of water. In winter time it may be a little less. Give your cows plenty of water and have it where they can get to it frequently. Drinking cups usually pay for themselves in increased production.



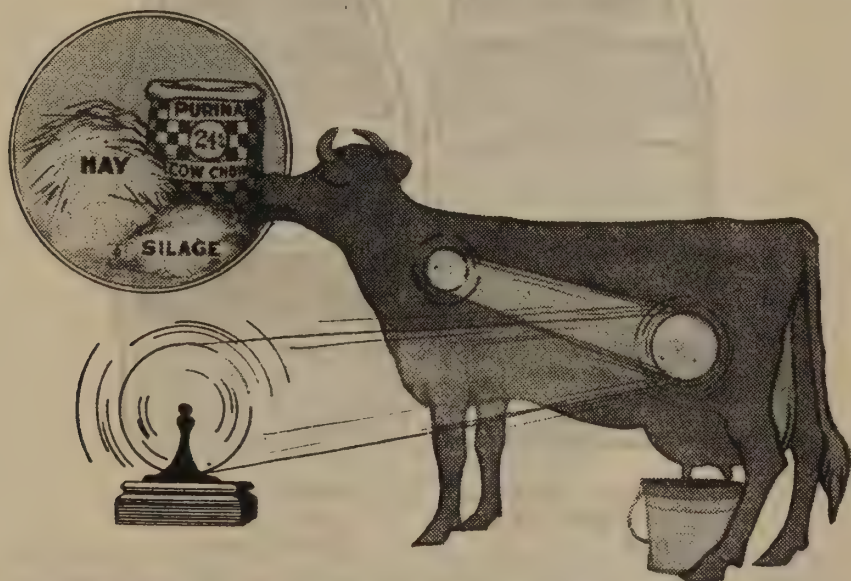
The roughage maintains the body, the grain feed determines the size of the milk check.

Carbohydrates

The next most abundant materials in milk are the butter fat and milk sugars. They are made from the same parts of the feed—the carbohydrates and fats. Home grown feeds supply carbohydrates and fats in the cheapest form. Ensilage, hay, pasture, beets, and other palatable roughages are the best source of the carbohydrates and fats that the cow turns into milk sugars and butter fat. Years of experiment have shown the amount of these necessary to supply the energy for the cow's work, to heat her body in winter time, and to supply the milk sugars and butter fat in milk.

Protein

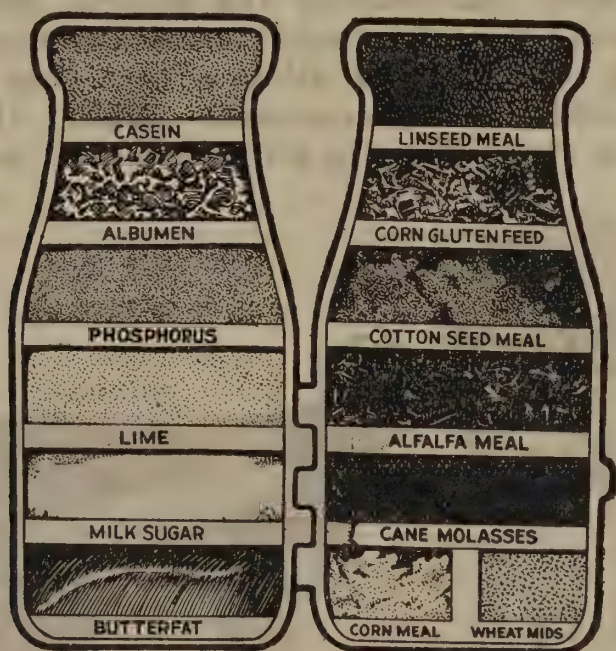
Casein and albumen are the proteins of milk. The same materials in the feed that build up the cow's body, particularly the muscle, hair, hide, horn, and hoofs, also build the casein and albumen in milk. Casein and albumen are very complicated chemical compounds. While they are proteins, they cannot be built from just "any kind"



When Cow Chow takes the place of ordinary grain feed, you get the extra inch and more in the pail. See on page 8 what that extra inch means.

of proteins in plant foods, such as hay or grass; or concentrates such as bran, middlings, oats, corn, and other feeds. No one plant has in its proteins the right proportions for milk making proteins. Chemists have found out how much protein a cow needs to maintain her body and to make a certain amount of milk, but they have not as yet found out everything about the different kinds of proteins that come from different plants. Recent experiments show that a pound and a half of protein of the right balance, or the right kind, will go as far as two pounds or more of proteins that are not adapted to milk production.

Minerals are used chiefly for the bones and teeth. Calcium and phosphorus are the chief minerals in milk, and the only kind of home grown feeds that supply lime in abundance are alfalfa hay, and



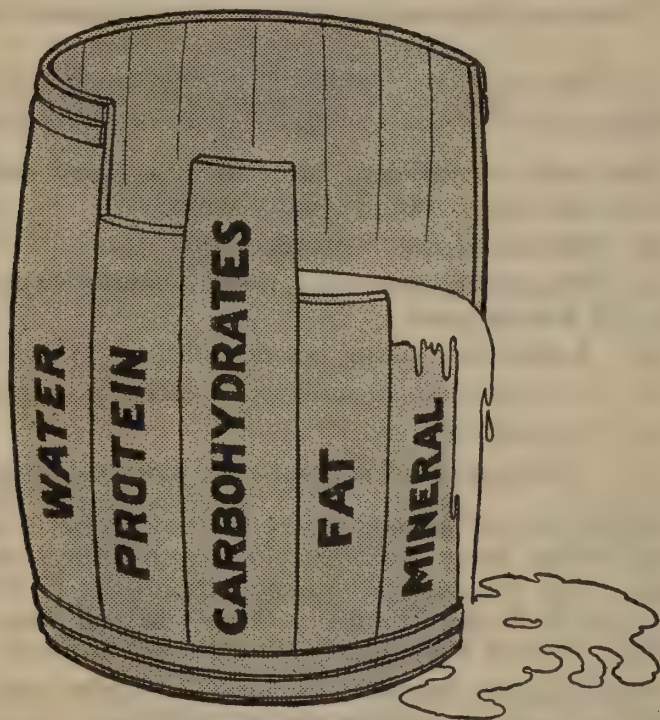
Here's what the
cow puts in the
pail.

Here's what she
gets in Purina
Cow Chow.

Note: These sections do not represent the proportions in which these materials occur in milk, or in Cow Chow; but the picture gives you an idea of the difference in the materials of milk.

other legumes. Ensilage, prairie hay, timothy hay, Johnson grass, corn, and oats are all very low in lime. They are also low in phosphorus. Chemists do not know as yet the exact amount of minerals that a cow can *use* in any particular feed, even though they can tell how much of these minerals are actually in the feed. The cow that does not get a feed with plenty of calcium and phosphorus, draws on her body for a while and then gradually goes dry.

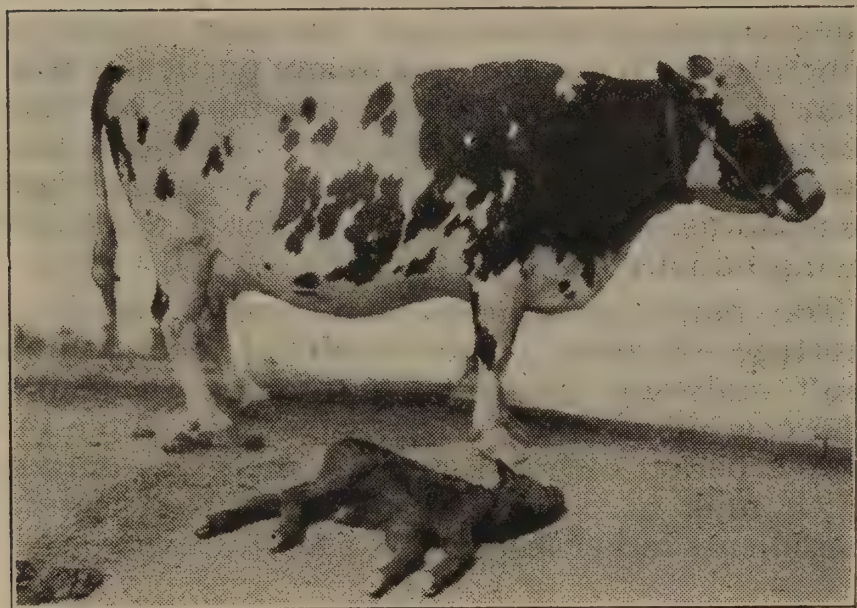
Too much phosphorus can't make up for a shortage of lime. Too much of one protein can't make up for a shortage of another kind. The cow may draw on her body for a while but over a period of a few months she gives only as much milk as can be made from the scarcest ingredients in her feed.



If there is one short stave in the barrel the water runs out—no matter how high the other staves are.

If your cow's ration is short one milk-making ingredient, she makes milk in proportion to this scarce ingredient—not the abundant one.

The Importance of Minerals in the Ration



Courtesy Wisconsin Agricultural Experimental Station.

This cow was fed a ration too low in minerals during her gestation period. The result was a premature, weak calf. Prevent this by feeding legume hay and Cow Chow—both rich in minerals.

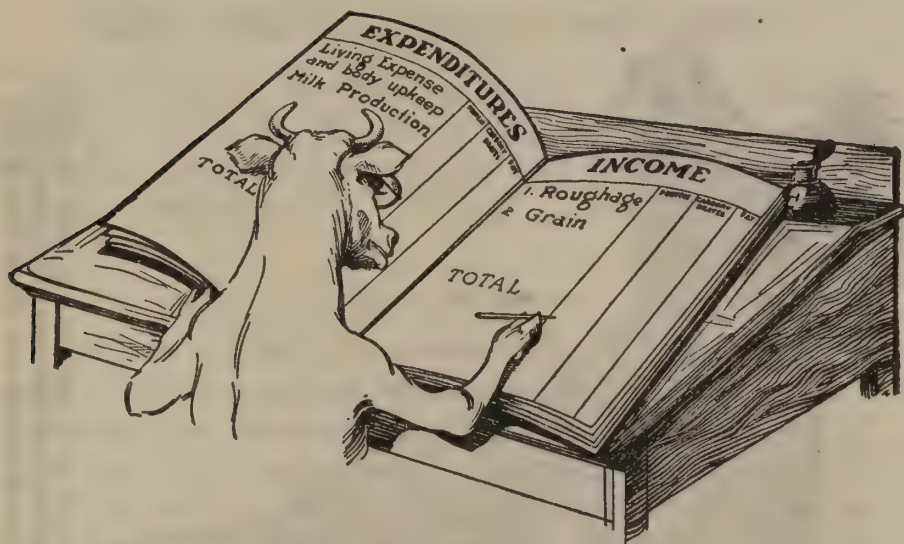
The lack of sufficient mineral in a dairy ration means loss to the cow owner in many ways.

1. Milk production drops down.
2. The cow becomes run down, usually sway back, and her life is shortened.
3. A shorter milking period.
4. A rapid drop in milk as lactation advances.
5. Failure to breed.
6. Calves are born prematurely in a weakened condition.

Lime should be supplied to the cow in her roughage and also in her grain ration. Non-legume hays are short in lime. The following roughages are all short in lime: Cotton Seed Hulls, Timothy Hay, Mixed Hay, Johnson Grass, Prairie Hay, Corn Silage, Corn Stover.

Feed legume hay and Purina Cow Chow and your herd will have plenty of lime and phosphorus. See page 27.

For more information on the right kind of Legume Hay write for Bulletin 350, published by the University of Wisconsin Experimental Station, Madison, Wisconsin. Free to all residents of Wisconsin and five cents to residents of other states.



The books must balance. A cow can't spend any more than she gets. If her feed income goes down, she soon cuts down on her milk.

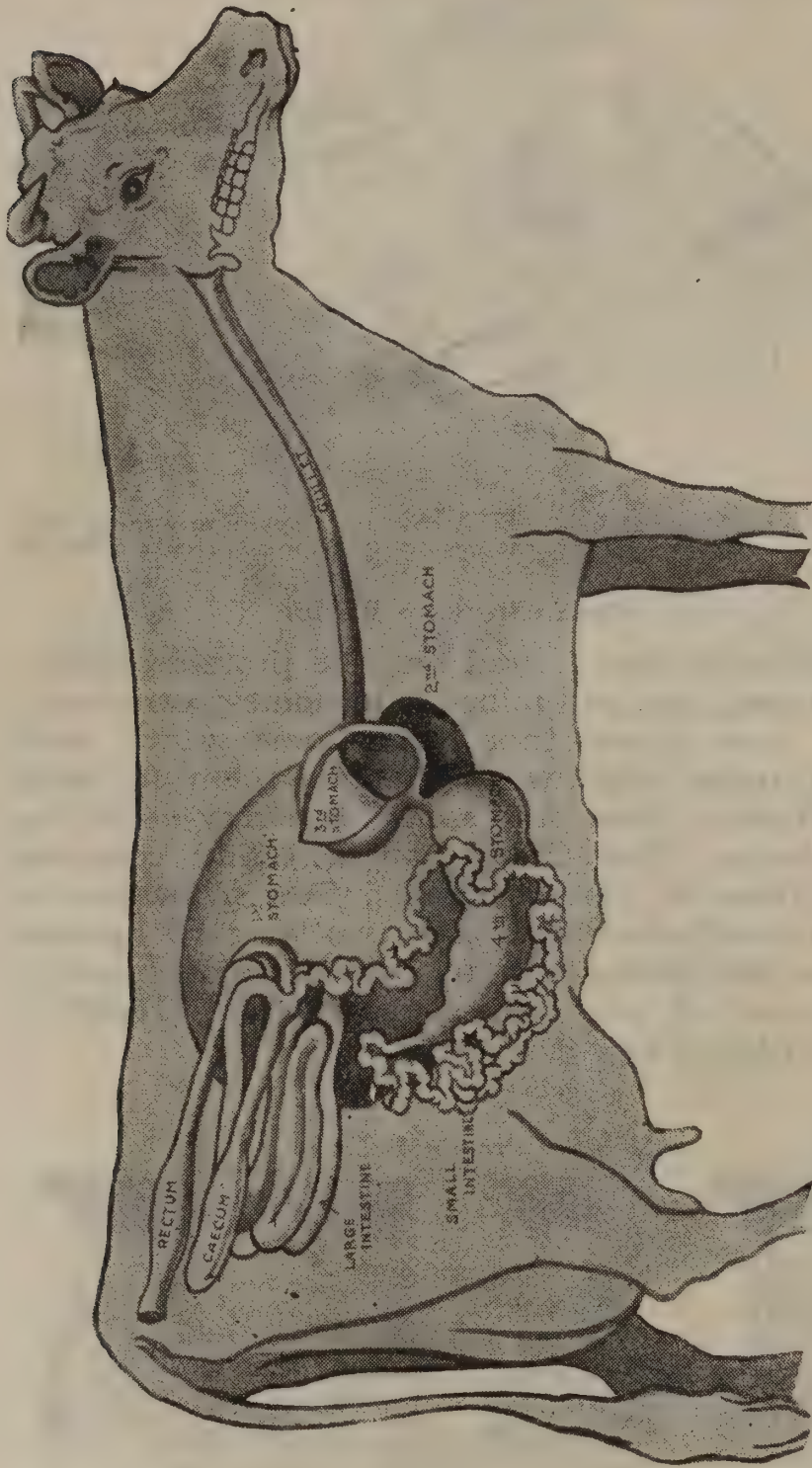
Balancing the Ration

Chemists have found out the proteins, carbohydrates, fats, and minerals in home grown feeds, and have shown that some home grown feeds need more proteins to balance them for milk production; than others do. In every other bag of Purina Cow Chow you will find complete directions on just how much Cow Chow to use with your home grains, or with other carbohydrate feeds like Bulky-Las, to get the most possible milk out of your ensilage and hay. Here's a good idea of how it works.

Proper Protein Balance



In every other bag of Cow Chow are full directions on how to get the proper balance with different roughages.



Showing the different steps in a cow's digestion. The first stomach is a storehouse, the second stomach a sieve, the third stomach a wringer, the fourth stomach a mixer, and the intestines start the distribution. (Note—For the sake of clearness the intestines are shown more spread out than they would actually appear in the cow.)

How Feed is Turned into Milk

The cow's milk making machinery is divided into five parts. The first stomach, the second stomach, the third stomach, the fourth stomach, and the intestines.

The First Stomach

The first stomach is a store house, where bulky feeds such as ensilage and hay are stored. When the cows get ready, this stored feed is brought back up the gullet and re-chewed as "cud". Only the bulky feeds stretch open the slit into the first stomach. Heavier feeds like cottonseed meal, linseed meal, water and the re-chewed "cud" pass right over the slit into the third stomach.

The Second Stomach

The second stomach is an annex to the first and acts as a sieve to catch all non-feeding material such as stones and bits of wire that happen to get into the cow's feed.



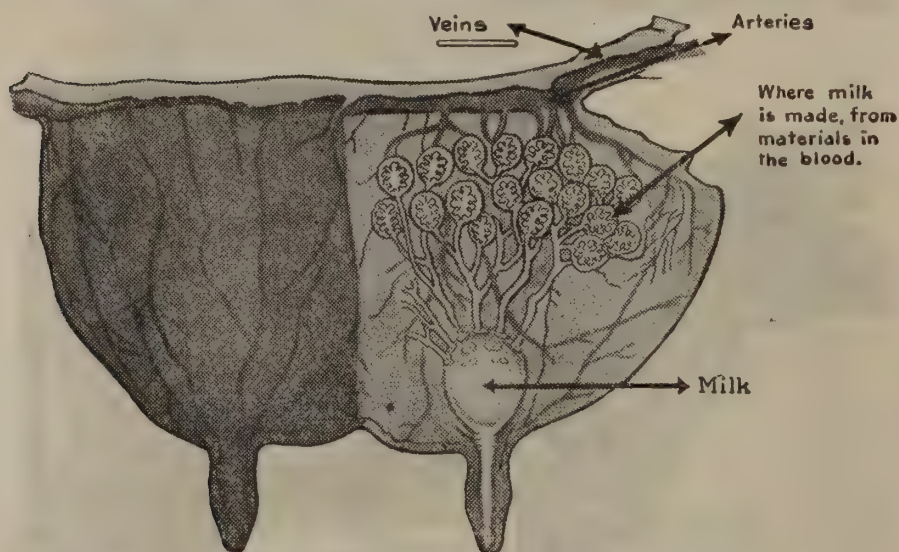
Showing the cow's blood system

The Third Stomach

Water, and the re-chewed “cud” go directly down the gullet to the third stomach. Here the water is squeezed out and the feed is then pressed into the fourth stomach in a damp, mealy form.

The Fourth Stomach

In the fourth stomach certain juices attack the food and start various chemical processes. If the feed is too compact, these juices can't work through it. That's one reason why alfalfa meal is used in Cow Chow rather than bran or beet pulp. The straight little stems in the alfalfa form a series of channels through which the digestive juices can penetrate more easily than when the bulk is in a flaky form.



This shows what the cow's udder looks like on the inside. The udder can't turn out milk unless the blood brings the milk-making materials. The blood can't get milk-making materials unless the cow gets them in her feed.

The Intestines

The intestines complete the digestive process and start the distribution. Some of the digested feed is carried by the blood to build up the cow's body. The rest of the digested feed is carried by the blood down to the udder where it is turned into milk. All undigested feed is finally expelled in the droppings.

Only the feed that is not digested passes out in the droppings. You can see how important it is to buy only feeds that are highly digestible. The cow's milk making machinery works harder to carry a poor feed through her system than it does to use a highly digestible feed like Purina Cow Chow. Purina Cow Chow cuts down that waste and turns the maximum amount of feed into milk.



Rosalie of Cosquay

Pure bred Guernsey with a record of over 15,000 lbs. of milk and 741 lbs. of fat on Cow Chow. Owned by B. F. Adkins, Hebron, Md.

What the Tag Doesn't Show

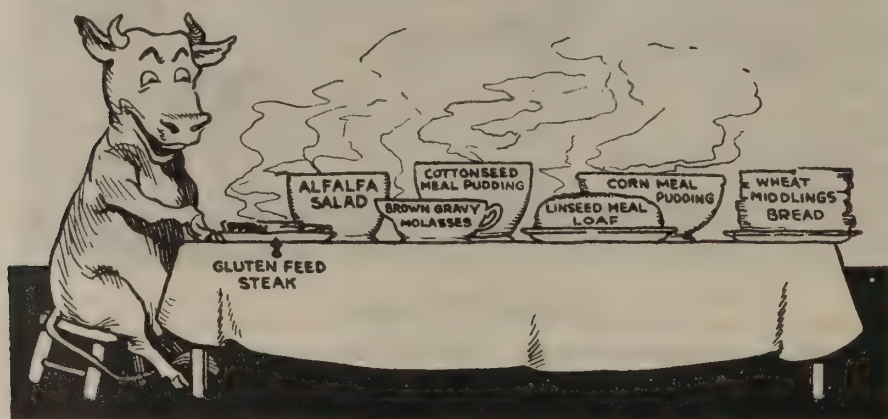
An analysis tag gives a *general* idea of the value of a feed, but it falls short because it doesn't tell you anything about the following:

1. Quality of Protein

The kind, or quality, of protein for milk making is fully as important as the amount of protein. Feathers analyze 80% to 90% protein. You could grind up a bunch of feathers, cover them with molasses, and your cows would eat some of them. They wouldn't make much milk out of that feather-protein, because only a small part of the protein in milk is of the kind that comes from feathers. Shoe leather is largely protein, but it won't make milk either. No plant, such as cotton, flax, wheat, corn, or oats, contains a complete protein combination for milk making. It is very important that the protein in the dairy ration come from several sources and that the proteins in the feed be built particularly from the plants whose proteins best fit the proteins of milk. See page 15.

2. Relish or Palatability

Many a cow with the capacity to produce 20 to 40 quarts of milk never has a chance to make this extra profit for her owner because she doesn't get feed that she likes. Did you ever think that the whole investment of a dairyman



depends for its profit on whether or not the cow will eat her grain feed. The grain feed is what makes most of the milk, and if the cow doesn't like her feed the profit on the investment stops.

Cow Chow has a variety of ingredients, all palatable. The cow eats Cow Chow with keen relish, digests most of it, and turns it into milk.

3. Safety or Health

It wouldn't do for a feed to be just palatable. It must be safe, so that when she does eat a lot and produces a good flow of milk, she will still stay in good condition. Most high protein feeds are rather trying on the cow's system, but this is met in Cow Chow by the use of linseed oil meal and cane molasses. Both of these feeds are cooling and laxative so that when the cow eats a lot of Cow Chow and makes a lot of milk, the laxative feeds in Cow Chow keep the system cool and the waste material passing through the system, so that there is no congestion. This is one of the reasons why so many world and state records have been made on Cow Chow. Pure bred men find that in Cow Chow they get not only a balanced ration for milk production and one that the cows relish, but also one that is perfectly safe. Queen Carlotta Dekol, in making her 34,000-pound record on Cow Chow, ate 40 pounds of Cow Chow a day for nine months, and 36 pounds a day for the remaining three months.

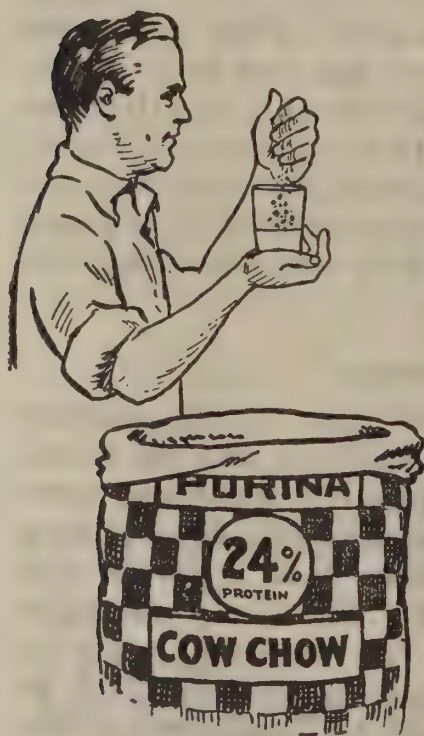
4. Digestibility

An analysis tag shows only the *crude* analysis of a feed. The digestible analysis can be found only by running very expensive digestion tests covering a large number of animals over a long period of time. A digestion test costs in the neighborhood of \$10,000.00. Naturally the state feed control officials can't run digestion tests on different mixed feeds so they have to depend on the *crude* analysis as a sort of rough and ready

guide to a general idea of the value of a feed. There is a digestion test, however, that you can run in your own barn, and that is by finding out what the feed produces in the pail. Any feed that is to be a good milk producer must be highly digestible. The milk making proteins in Cow Chow are selected for their high digestibility. The fiber in Cow Chow, comes largely from alfalfa meal, and its fiber is 12% more digestible than the fiber in wheat bran.

5. Bulk

When feed is pressed from the third stomach of the cow into the fourth it is in a rather compact form. It is important that in the fourth stomach the feed be easily penetrated by the digestive juices. Any very heavy feed when mixed with water is apt to make a paste, and not be easily handled in the fourth stomach. The alfalfa meal used to lighten Cow Chow makes fine channels all through the feed. This makes it soak up the digestive juices. Try putting a handful of Cow Chow in an inch or two of water in a tumbler. You will be surprised at how quickly it absorbs the water, showing that it has the same effect on the digestive juices.



6. Minerals

Milk has traces of iodine, iron and several other minerals in it, but its most important

minerals are lime and phosphorus. Phosphorus is found in the linseed meal and cottonseed meal in Cow Chow. Lime (or calcium) is not plentiful in any concentrated feed such as the oil meals, corn feeds, or wheat feeds. Alfalfa meal, however, is very high in lime, containing 22 times as much lime as wheat bran. In addition to that, alfalfa meal contains a vitamin which helps the cow assimilate the lime that it carries. Without this vitamin, lime is not so valuable. Alfalfa meal is therefore particularly valuable because it contains the lime, and the vitamin to help the cow assimilate the lime. Purina Cow Chow does not contain any minerals in rock form, or even bone meal because a majority of the national authorities do not, at this writing, recommend its use. The sub-committee on Animal Nutrition of the National Research Council, headed by Dr. E. B. Forbes says—"Mineral components, especially marl, and other crude calcium carbonates and phosphates, are used by a number of manufacturers as components of commercial feeds, especially for cows.

"The prevailing attitude among these manufacturers is the purely commercial one which seeks to increase and to capitalize the popular interest in mineral nutrients, regardless, or in ignorance, of the facts of physiology; though some prominent feed manufacturers refuse to use mineral components in their cow feeds so long as this practice, in relation to generally prevailing conditions, is equivalent to adulteration.

"It obvious that the prevalent use of ground rock preparations as components of commercial feeds, in the absence of definite knowledge that they are of general value, depends primarily on the fact that these rock products are cheaper than the cereal products of which the feeds are largely composed.

The Cow

The cow is a female quadruped with an alto voice and a countenance in which there is no guile.

She collaborates with the pump in the production of a liquid called milk, provides the filler for hash, and is at last skinned by those she has benefited, as mortals commonly are.

The young cow is called a calf, and is used in the manufacture of chicken salad.

The cow's tail is mounted aft and has a universal joint.

It is used to disturb marauding flies, and a tassel at the end has unique educational value. Persons who milk cows and come often in contact with the tassel have vocabularies of peculiar and impressive force.

The cow has two stomachs. The one on the ground floor is used as a warehouse and has no other function. When this one is filled the cow retires to a quiet place where her ill manners will occasion no comment and devotes herself to belching. The raw material thus conveyed for the second time in the interior of her face is pulverized and delivered to the auxiliary stomach, where it is converted into cow.

The cow has no upper plate. All her teeth are parked in the lower part of her face. The arrangement was perfected by an efficiency expert to keep her from gumming things up. As a result she bites things up and gums down.

A slice of cow is worth eight cents in the cow, fourteen cents in the hands of the packer and \$2.40 in a restaurant that specializes in atmosphere.

—*Baltimore Sun.*

P.S.—The male cow is called a bull and is lassoed along the Colorado, fought south of the Rio Grande, and shot in the vicinity of the Potomac.

Overheard in the Pasture



Mr. Bull— Say, Sis, why doesn't your boss demand an open formula on the feed he uses?

Mrs. Cow— What good would it do?

Mr. Bull— Then you know what's in the feed!

Mrs. Cow— My boss knows that

anyway. The ingredients and analysis are right on the tag

Mr. Bull— But not *how much* of everything, that's what we want to know.

Mrs. Cow— Do you really *know*? The other day a fellow told my boss that if he wanted a formula he would guarantee him four or five different formulas on the same sack, and then turned right around and guaranteed that he couldn't tell which of the five formulas was in that sack.

Mr. Bull— That's funny. (Scratches his head.)

Mrs. Cow— Isn't your boss standing in his own light when he tries to buy feed on something that he can't determine after it's guaranteed him? You know the State Feed Control officials say there is no way of telling how much of anything is in a feed. My boss says the only thing he wants to know "how much of" in the feed he uses is profits and healthy cows. Listen here, Brother, did you ever hear of a formula paying off a mortgage, sending the children to school, or making things easier for the dairyman?

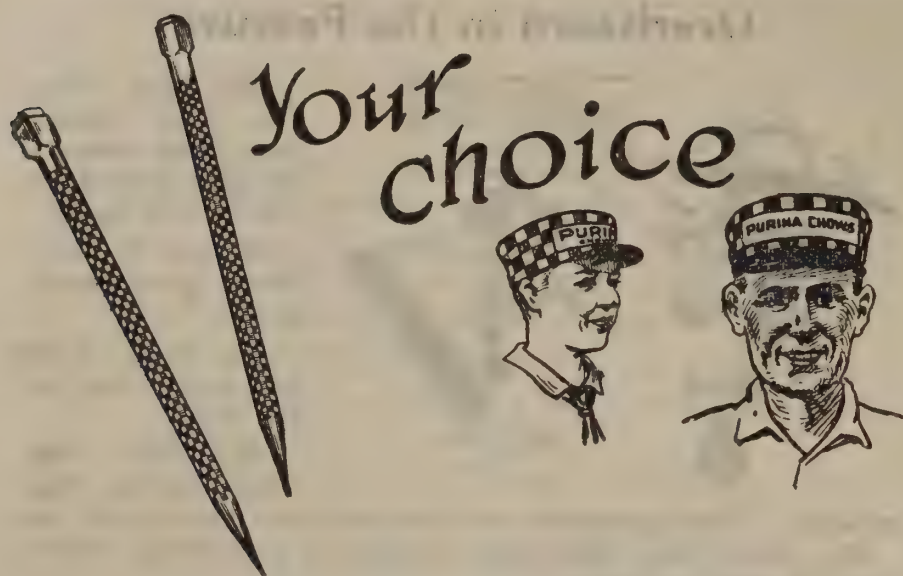
Mr. Bull— Gosh, no!

Mrs. Cow— A pencil and a milk sheet tell my boss what he wants to know about a feed. Ask your boss if he's got any better plan than that.



ENTER SCALE AND MILK SHEET

EXIT BULL



A Problem for the Youngsters to Figure (and the Old Folks Too, If They Wish)

Figure out the right answers to Problem 1 and Problem 2 and you win either two checkerboard pencils or two checkerboard milking caps. The problems are simple. See if you can work them and win a prize.

Problem 1

A herd of 10 cows is averaging 22 lbs. of milk a day. Each cow eats an average of 10 lbs. of grain feed per day, half of it home grown and half of it bought. They change to Cow Chow using half home grain and half Cow Chow. Cow Chow costs \$4.00 a ton more than the feed they had been buying before, but it is fed half and half with home grain like the other feed.

After getting on full feed of Cow Chow, they eat the same amount of grain feed as before, but produce 2 lbs. more milk per cow per day, or an average of 24 lbs. on the 10 lbs. of feed. With milk at $2\frac{1}{2}c$ a pound, how much *extra* profit do the 10 cows make each 30 days on Cow Chow?

Problem 2

A herd of 10 cows is averaging $2\frac{1}{2}$ lbs. of milk to each pound of feed. Their owner puts them on Cow Chow, and after 60 days they average 3 lbs. of milk to a pound of feed. Milk is worth $2\frac{1}{2}$ c a pound. Cow Chow costs \$4.00 a ton more than the other feed. How much extra net profit do they make on every ton of Cow Chow they feed?

Dairy Department, Purina Mills, St. Louis.

The answer to problem No. 1 is.....

The answer to problem No. 2 is.....

Name

Please write name plainly

P. O. address

.....

If you want the 2 checkerboard pencils, check here ☐

If you want the 2 milking caps, check here ☐, and
give the sizes wanted on this line

If you are not feeding Cow Chow now, would you
like to try it?.....

Is "Total Digestible Nutrients" the Final Answer to the Value of a Feed?

No, "total digestible nutrients" gives you a fair idea of the digestible material in the feed, but there is no way of actually checking the manufacturer's statement on that point. See page 92. Here are some points that are not included in total digestible nutrients, but which are even more valuable.

- | | |
|----------------------------|---|
| 1. Quality of protein. | 4. Bulk. |
| 2. Relish or palatability. | 5. Minerals. |
| 3. Safety or health. | 6. Vitamins for assimilation of minerals. |

For Example

Wheat screenings have more total digestible nutrients than wheat bran. Velvet bean meal has more total digestible nutrients than linseed oil meal.

For those who want to figure rations with Purina Chows we are glad to give the digestible analysis of Cow Chow as follows:

Digestible protein.....	20.5%
Digestible carbohydrates.....	45.0%
Digestible fat.....	4.0%

But the Purnina Mills does not stress "total digestible nutrients" in selling Cow Chow because of the many other valuable points in the feed that are often overlooked if a person considers only "total digestible nutrients."

Another reason is, that the state authorities have no regulations or facilities for checking the manufacturers' statements of total digestible nutrients. The feed control officials analyze a feed for its crude proteins, carbohydrates, fats, fiber, and sometimes ash and moisture. They cannot run digestion tests as a single test of this sort would take several months, and cost several thousand dollars.

Your cows can tell you more about the value of a feed than you can find out from reading the tag.



Glen Otter Colantha Lady

**World's Champion Senior 3 year old, Cow Chow fed.
Owned by Mr. and Mrs. Whit Root, Dunnville, Canada.**



Gerster

**Registered Holstein, owned by Highland Springs Farm, Cisco,
Texas. Cow Chow fed.**

For County Agents and Cow Testers

The feeding directions in every other bag of Cow Chow show the proper concentrate combination to balance Cow Chow with different roughages. For your ready reference, a few balances are given here.

1200 lb. Cow Producing 40 lbs. of 3% Milk Needs Every 24 Hours

	Digestible Protein	Total Digestible Nutrients
To maintain body.....	.84 lbs.	9.51 lbs.
To produce 40 lbs. of 3% milk.	1.88 lbs.	11.37 lbs.
Total needs.....	2.72 lbs.	20.88 lbs.
42 lbs. of corn silage.....	.46 lbs.	7.41 lbs.
12 lbs. of good alfalfa.....	1.27 lbs.	6.20 lbs.
5 lbs. of Purina Cow Chow....	1.00 lbs.	3.77 lbs.
5 lbs. of corn and cob meal....	.31 lbs.	3.93 lbs.
Result.....	3.04 lbs.	21.31 lbs.

Here is a ration for the south where roughage is short and Purina Bulky-Las is fed as a carbohydrate feed with Purina Cow Chow.

900 lb. Cow Producing 20 lbs. 2½ gal. of 4.2% Milk

	Digestible Protein	Total Digestible Nutrients
Total needs.....	1.74 lbs.	14.21 lbs.
10 lbs. cottonseed hulls.....	.03 lbs.	3.44 lbs.
8 lbs. Bulky-Las.....	.46 lbs.	4.87 lbs.
8 lbs. Cow Chow.....	1.60 lbs.	6.01 lbs.
Result.....	2.09 lbs.	14.32 lbs.

For the cow owner with low protein hay *and* home grain. (This roughage and grain combination works best with Purina Special 34% Cow Chow.)

1000 lb. Cow Producing 25 lbs. of 3½% Milk

	Digestible Protein	Total Digestible Nutrients
Total needs.....	1.93 lbs.	15.74 lbs.
10 lbs. mixed hay.....	.40 lbs.	4.89 lbs.
10 lbs. corn fodder.....	.22 lbs.	4.00 lbs.
4 lbs. Special 34% Cow Chow..	1.096 lbs.	2.765 lbs.
4 lbs. corn and cob meal.....	.248 lbs.	3.142 lbs.
Result.....	1.964 lbs.	14.797 lbs.



Bess and Queen

Part of the herd of Chas. Langderfer, LeMars, Iowa, member of a cow testing association. Bess is frequently the high cow in the association. They're all Purina fed.

Percentage or Results

Joe Guess says—

Why don't all "24%" feeds sell at the same price?

Bill Know says—

Why don't all "24%" feeds make the same amount of milk?

Bill Know says, "Take for instance the molasses in Cow Chow. It's one of the most valuable ingredients in the bag, but there's practically no protein in it."

"Take that 24% feed you're using, Joe. Suppose you put some molasses with it—then your mixture wouldn't analyze 24%, because the molasses would pull down the average. The only way you could bring it up to 24% again would be to take out some of the bran, middlings, or low protein concentrates and put in some of the higher priced, higher protein feeds, such as linseed meal, corn gluten feed or cottonseed meal."

"Those high protein feeds cost more, and you've got to use more of them when you use molasses. On the other hand, those high protein feeds have the most valuable kinds of milk-making proteins—and that explains the better results with Cow Chow."

"Listen here, Joe, when every Number 9 shoe in the shoe store sells at exactly the same price, then I'll talk to you—but in the meantime, get out that pencil and milk sheet, forget percentages, and look at dollars and profits."

Cow Chow Fed Johanna Carlme De Kol 2nd Breaks Missouri State Record



21,327 pounds of milk and 680.1 pounds of butterfat is the 12 months record made by the Holstein shown in the picture above. This is a Missouri State Record (July 1926). The milk was produced at a feed cost of 9 cents per gallon, and the fat at 33 cents per pound. Cow Chow and home grains, corn silage and alfalfa hay was the ration.

The man in the picture is Mr. Elmer Adams, owner of the record cow as well as several other record cows. He is president of two Cow Test Associations and one of the most successful dairymen in the Middle West. The 60 cows in the Adams dairy barn produce certified milk for Kansas City consumption.

Mr. Adams has fed Purina Cow Chow for the past six years because the keeping of accurate records shows Cow Chow makes him the most money. He says:

"I believe that most of the profit in dairying does not come from a high price on milk but from better feeding and care of our herd."

A Peep Behind the Scenes at Purina

Every Monday morning Wm. H. Danforth, founder and president of the Purina Mills, sends a personal message to every department head. Parts of these same messages are passed on to the entire organization through weekly or monthly bulletins.

As a buyer of feed you will be interested in a recent message sent by President Danforth to all employees.

Which would you Choose?

If you could choose the place the Purina Mills will occupy fifty years from today which would you choose?

1. Would you have Purina the greatest commercial success in the United States?
2. Or would you have the Purina Mills the greatest of all factors in bringing better methods to the live stock owner so that he can get a greater return for every hour of labor?

Think this over carefully and make your choice.

The beauty of it is that you cannot possibly choose one without the other. If Purina is to be the greatest commercial success then Purina must render the greatest service to the poultry and live stock owners. If Purina renders the greatest service then Purina must make the greatest success.

Choose your goal and you will find that you cannot choose one without both.

WM. H. DANFORTH



How About Pastures?

Why does grass make so much milk if it isn't a complete ration?

Enough grass, is a complete ration for a low producing cow.

Enough grass means 75 lbs. to 100 lbs. per cow per day. A cow can hardly hold that much, even if it's there for her.

A high producing cow will give a lot of milk on grass—for a little while. But she has to pay the fiddler sooner or later.

Follow these simple rules on pasture, and you'll make money.





1. Take Care of Your Pastures

Don't turn cows out early in the spring when the turf is soft and the roots are tender. Their hoofs will cut into the ground, chop the roots, expose them to the sun, and have the pasture ruined in thirty days.

Let the pasture get a good start. Turn the cows on it only for a couple of hours at a time, and gradually reseed with the kind of pasture crop that best fits your soil—your County Agent or State College can help you on this.

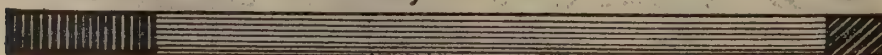
2. Don't Try To Make Your Pastures Do Something They Can't

Unless you have at least four acres to the cow, the pasture will rob the cow's body. Fresh green grass (succulent, high in mineral, juicy and fragrant) is sure to stimulate a cow. She gives out more than she gets. Nobody can take four

Proteins Carbohydrates Fat



Proteins Carbohydrates Fat



from two; and nobody can take four gallons of milk out of a cow with pasture alone, without having to pay for it later. Make your pastures last as long as they can by feeding a small amount of Cow Chow, according to the directions in each bag.

Some dairymen think that Cow Chow, being a heavy milk producer, isn't needed on pasture when cows may be producing as much milk as then can sell.

In that case, simply feed less Cow Chow. Cow Chow makes more milk per pound of feed, and more milk per dollar. Use less Cow Chow when you don't want to increase your milk.

3. Don't Let Your Cows Slump In Fly Time

It takes more gasoline to start a car than it does to keep it going. Prevent the hot weather—fly time slump.

Spray for flies. Screen the barn. Hang strips of sacks over the door to brush off the flies when the cows come in. Watch the pasture closely, and increase the Cow Chow as the food values of the pasture decreases. Special feeding directions are in every other bag of Cow Chow.



When the milk line goes down, so do the profits



It pays to feed Cow Chow all summer and hold the milk line up

Fresh Green Pasture in a Bag

Purina Bulky-Las soaked in water is a wonderful feed to keep the cows in shape when pastures begin to dry. The water brings out the odor of the alfalfa and the cane molasses. Bulky-Las can't take the place of Cow Chow as a milk maker, but it's a real money-maker when pastures are short—and by feeding Bulky-Las you can feed less Cow Chow per cow.



Which Has the Best Time in Winter, the Bee or the Grasshopper?

When summer comes the grasshopper hops all over the place, gets all the food he wants, never thinks about the winter time, and enjoys himself generally.

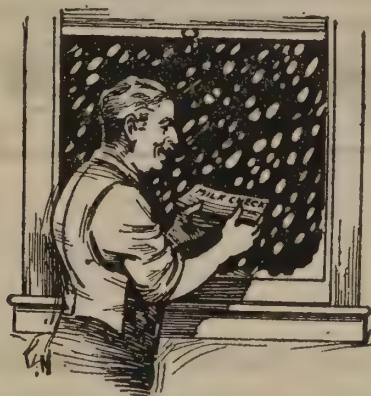
The bee enjoys the summertime, too. It flits from flower to flower, has plenty of good food, but it stores up something for the winter.

When winter comes, the grasshopper has nothing put by, and winter is apt to put him flat on his back, while the bee enjoys the winter on what it has put by in the summer.

Some cows enjoy nice green pasture for a few weeks in summer. The grass stimulates them to their best production. They even put more in the pail than they get out of the grass. Their bodies are robbed of their reserve materials and when winter comes those same cows don't pro-

duce very much. If they do produce much they've got to get a whole lot of grain feed to do it. Their owner doesn't make so much money on them.

There are other herds of cows whose owners look ahead like the bee. Even though milk may be lower priced in the summer, they realize that nearly all of their milk checks in summer are clear profit, and they're mighty glad to put some of that profit back into the hive (the cow) to be all ready for winter. These cows get grain feed right along with their pasture. They produce plenty of milk on pasture, but it isn't produced at the expense of their bodies. Their bodies are

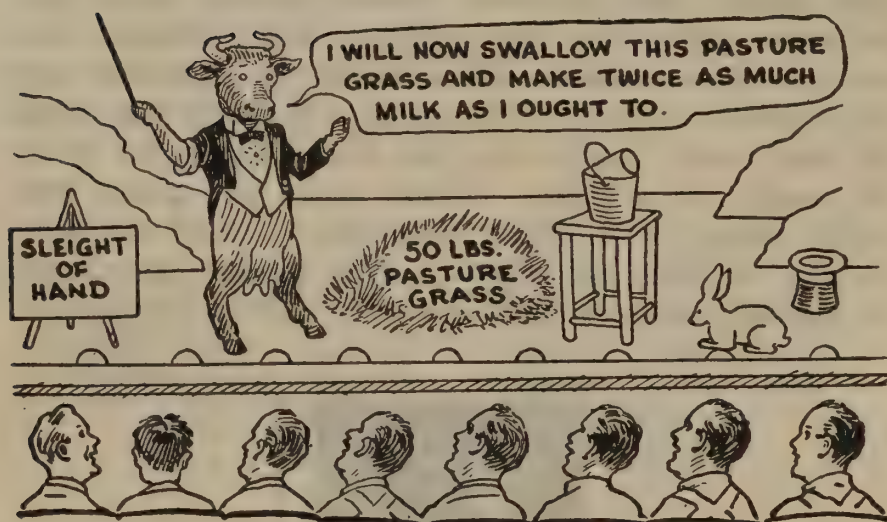


built up right along, and when other cows are slumping in the hot weather and fly time, these cows keep right on producing. When they go into the barn on winter feed, they are in good shape to make the most possible milk on the least possible feed. They are just like bees and they make honey for their owners in the shape of big winter milk checks.

Put some honey in the hives in the summer-time by feeding your cows some grain while on pasture. It pays.

"The man who offers nothing but price usually has nothing but price to offer."

Where Does It Come From? Up Her Sleeve?

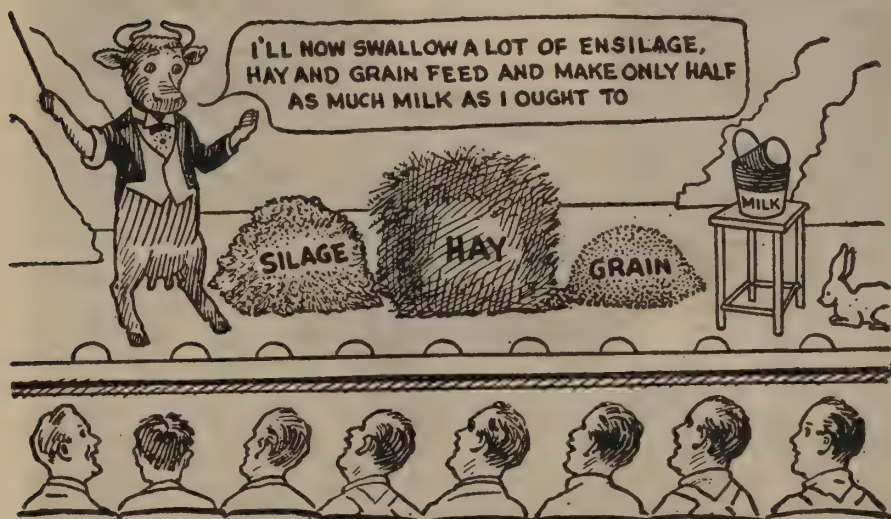


The cow says:

"My next trick, ladies and gentlemen, will be to make something out of nothing. With only half enough pasture grass I will make 3 gallons of milk."

How does she do it? Is the extra milk hidden up her sleeve? No indeed, but the materials for making it are distributed over her body, and she takes them off of her body to put them in the pail. That's why this trick is popular with cows for only a short time. You don't see them doing it much after the first of September.

Three Months Later



The cow says:

"I will now swallow a lot of ensilage, hay, and grain feed, and make only half as much milk as I ought to."

Supplement pastures with Purina so she won't have to make milk out of nothing in the summer, and she will make a whole lot more milk in the winter.

The Man on the Cover

The man on the cover of this Dairy Book was painted from real life. He is Wm. Schleuter, of Ferguson, Mo., one of the 40,000 dairymen who have learned that Cow Chow makes a can of milk from three cows instead of four, and saves a lot of work. Purina experiments are sometimes carried out on his farm.



Edgewood Fairy II

Edgewood Fairy II, milking shorthorn, bred, raised, owned, and shown by Hudson & Sons, Mason, Ohio.

Fairy was Milking Shorthorn Champion and Grand Champion Cow at the International Live Stock Show in 1925.

Edgewood Fairy II milked 31.8 pounds in the show ring, after previous official stripping 14 hours before going into the ring.

Her dam, Edgewood Fairy, was World's Champion 6 year old cow for butterfat production on two milkings a day.

Edgewood Fairy is Cow Chow fed, and Hudson & Sons have fed Purina continuously for over 10 years.

Good breeding plus good management plus good feeding makes champions.

Roughage *and* Grain in Winter?



Hay is a good roughage, but it needs Cow Chow to supplement it.



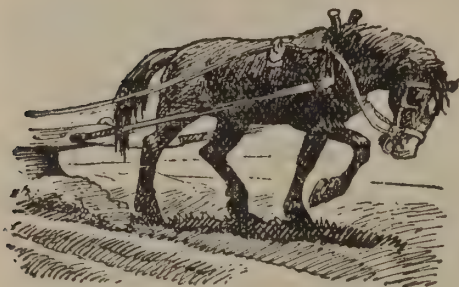
Ensilage is a good roughage, but it needs Cow Chow with it.



Pasture is a good roughage, but it needs Cow Chow with it.

Roughage *and* Grain in Summer

Which Is Doing the Harder Work?



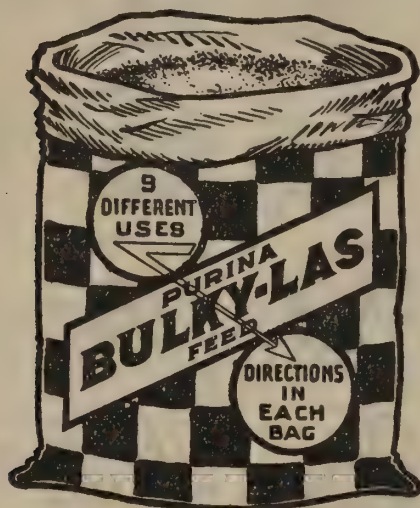
The horse is doing hard field work. He may get only a little grain during the winter, but with the hard work of plowing he gets plenty of grain because he needs it.

A high producing cow may not look like she is working hard, but right while she is lying down chewing her cud, the milk making process is going on inside. You can't see it, but the energy used up in the milk making process, and the broken down tissues that have to be repaired, take just as much feed as the hard working horse.

Nobody would work a horse hard in the spring without plenty of grain, yet lots of cow owners require the same amount of work from the cow in producing milk, and give her only grass and hay.

A horse can't keep up hard work on grass alone. A cow can keep it up for a while because the maternal instinct causes her to draw on her body, but she can't keep it up long either. The hard working cow needs grain just as much as the hard working horse, and she will pay you well for it.

Nine Profitable Uses for Purina Bulky-Las



1. As a carbohydrate feed with Cow Chow.
2. In place of beet pulp.
3. For dry stock and bulls.
4. For young stock.
5. When you're short of hay.
6. When you have no ensilage.
7. Fitting for test work.
8. As a general conditioner.
9. For sheep.

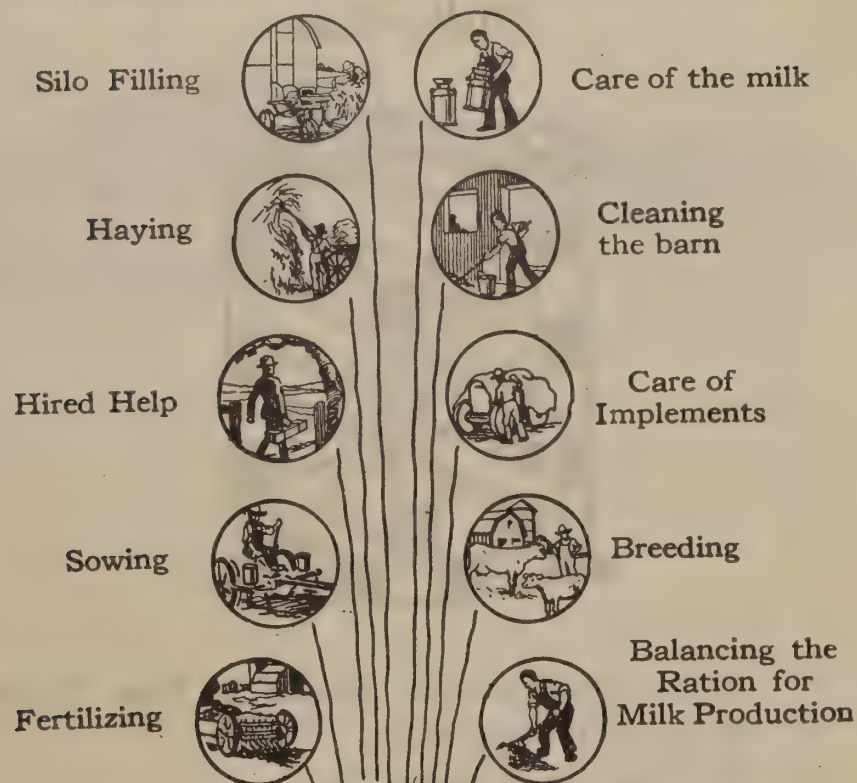
Directions in Each Bag.

Digestible analysis of Bulky-Las.

Protein—6.5% Carbohydrates—50% Fat—1.0%.

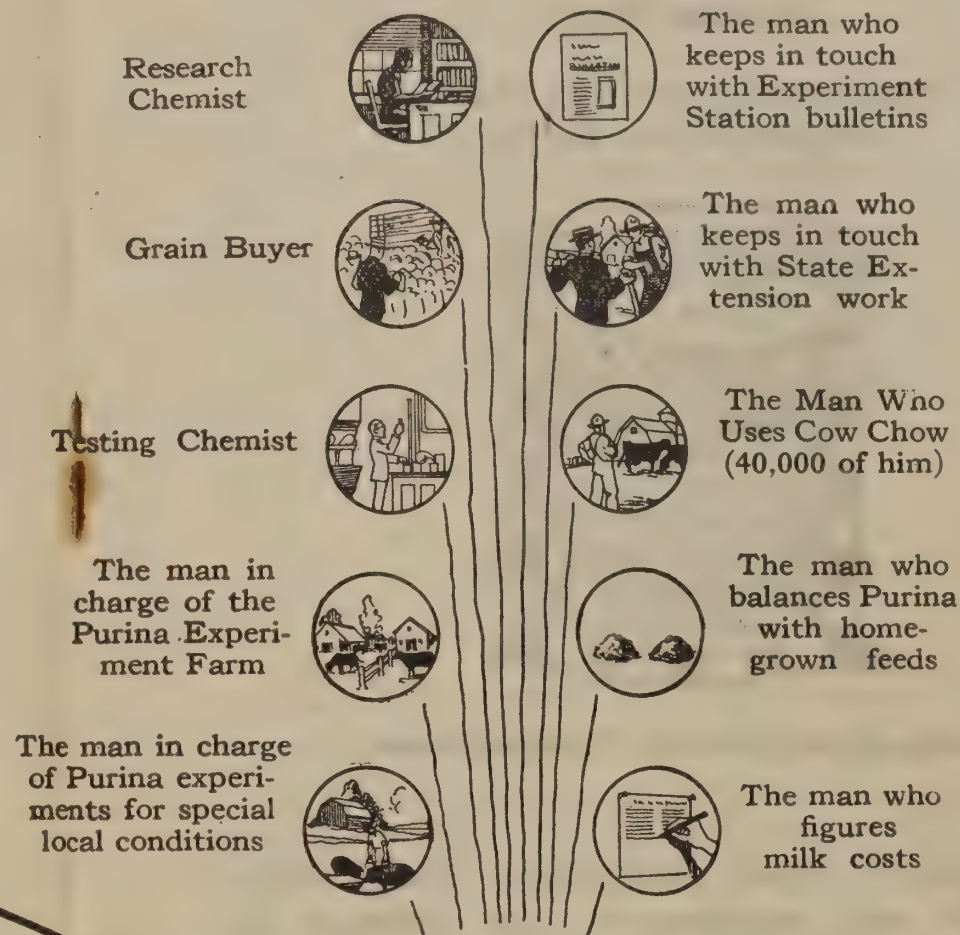
If you are buying wheat middlings, wheat bran, corn meal, hominy, or beet pulp, you will be more than pleased when you try Purina Bulky-Las. Ask your dealer.

Ten things for one man to think about

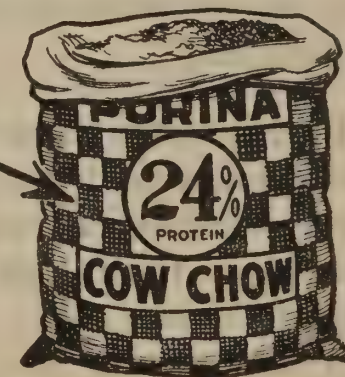


Isn't feed mixing too important to be just one of ten things you do?

Ten men to think about one thing



**balancing
the
ration
for milk
production**

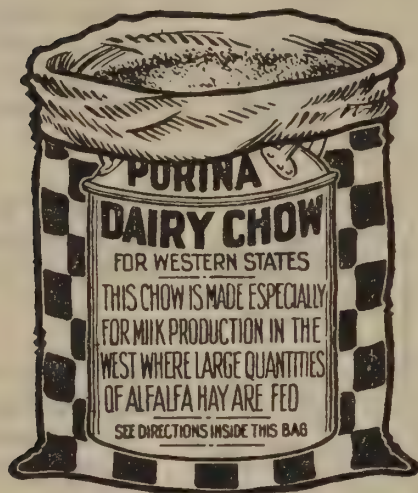


—saves time, labor—makes you money!

It saves you time, labor and money to let Purina do your mixing for you.

For the Heavy Alfalfa Sections In the West

Where 20 lbs. or More of Alfalfa
are Fed, per Cow per Day



Purina Dairy Chow for Western States

This feed is made particularly for western conditions and supplements the proteins in alfalfa. It should be fed as one third or one half of the grain ration according to the roughage that may be fed with the alfalfa. Full directions are in each bag.

Purina Dairy Chow for Western States contains corn gluten feed, cottonseed meal, wheat bran, wheat middlings, corn meal, beet pulp, and molasses. It is high in carbohydrates, and a splendid conditioner. If you feed 20 lbs. or more of alfalfa per cow per day and your dealer doesn't carry Purina Dairy Chow for Western States ask him to order it for you.

Special 34% Cow Chow in Red Checkered Bags

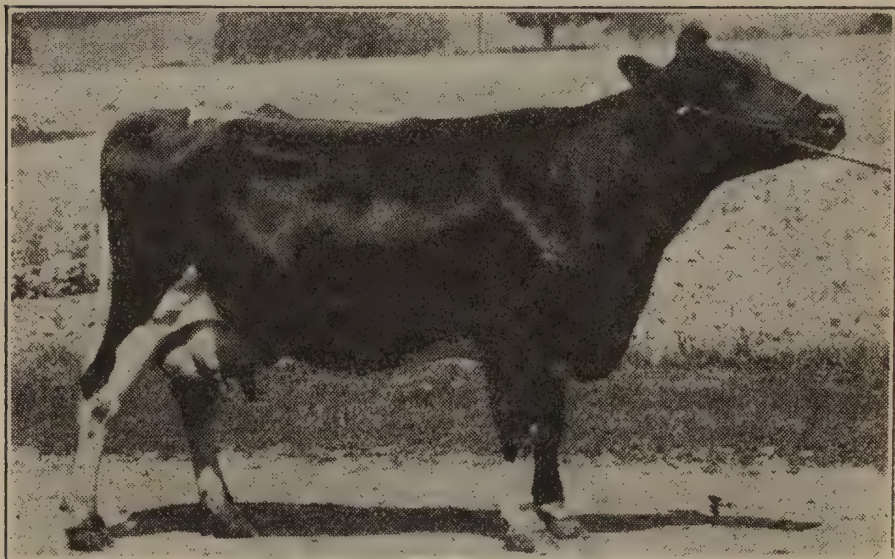


This Chow is made for milk producers who have low protein roughages *and home grains*. If you feed timothy hay, clover and timothy mixed, corn fodder, or other low protein hays and raise your own home grain, 34% Cow Chow fed half and half makes an ideal milk producer.

Do not use 34% Cow Chow if you have clover, alfalfa, soy bean, or other legume hay.

Directions are in each bag. 34% Cow Chow is really regular Cow Chow with the carbohydrate ingredients (middlings and corn meal) left out, and with gluten meal used instead of gluten feed.

See page 35.



Hygeia Peonia Pontiac Scotia No. 255373

Owned by Geo. McPherson, Newark Valley, N. Y. From May 1, 1925, to May 1, 1926, she produced over 21,000 lbs. of milk, and after fifteen months steady milking was still producing at the rate of 41 lbs. a day. Cow Chow is her complete grain ration, and Mr. McPherson says he gets \$18.00 more milk from every ton of Cow Chow.



Leila Belle Blossom

Cow Chow fed Milking Shorthorn at Alasa Farms, Alton, N. Y., a big producer.

Raising the Calf



The easiest way to raise a calf

The cartoon above looks rather ridiculous, doesn't it? We made it that way so you would look at it. A part of that picture is not ridiculous, however.—And that is, the weights which are tied on the end of the rope to raise the calf. Two bags of Calf Chow (200 lbs.)—15 gallons of milk—three bags of corn and oats—and some hay—is what it takes to raise a calf to the age of 6 months.

Is it Hard to Raise a Calf the Purina Way?

No, indeed! It's the *easiest* way there is. This is important, too, because a busy dairyman's time is worth money. Formerly he raised calves by pail-feeding them for a long time. Today he pail-feeds them only for a short time, and then switches to dry Purina Calf Chow. All inconvenience of pail-feeding is eliminated after the first few weeks. From this time on the calf is just as easy to take care of as a yearling.

**Has Your Experience been like Bill Know's
When it comes to Buying Cows?**

Joe Guess—"Bill, why is it that I never can buy a good mature cow at a good price?"



Bill Know—"That's easy to answer, Joe. You have to pay the fellow you buy her from more than she is worth to him, or he won't sell her."

Joe Guess—"By Gum—do you know I never thought of that—

Say, Bill, where do you get your cows?"

Bill Know—"I raise the heifers from my best cows. I find by raising them the "Purina Way" that I can raise a *good heifer* a lot cheaper than I could buy a *good cow*."

Joe Guess—"Say, Bill, where can I learn more about that Calf Chow?"

Bill Know—"The directions in the bag tell you exactly how to feed it. Buy some and try it on your calves."

Joe Guess—"I believe I will."

Bill Know—"Write to the Purina Mills and they will send you, free, a book that tells a lot about raising calves."

Address them—
Purina Mills,
Dairy Chow Department, Desk C,
St. Louis, Missouri.



What the Purina Research Department Found



Betsy is one of more than 20 calves raised last winter by the Research Department of the Purina Mills. Following is Betsy's feed record for the first 135 days $4\frac{1}{2}$ months of her life:

Milk.....	77.1 lbs. ($9\frac{1}{2}$ gallons)
Calf Chow.....	210.6 lbs.
Grain.....	202.3 lbs.
Hay.....	289.3 lbs.

At current market prices, the cost of this feed was \$13.40. This is a very reasonable cost for raising a calf to $4\frac{1}{2}$ months of age.

What is Purina Calf Chow?

It's a feed that supplements milk for the first two to four weeks of the calf's life and then entirely takes the place of milk. Purina Calf Chow is made from blood flour, wheat flour, linseed flour, cornmeal, and bone phosphate of lime.

Read what Minnesota Bulletin No. 91 says—

Use of Calf Meal and Milk Substitutes

"One of the most widely used and perhaps the one that has given the most satisfactory results of any milk substitute so far tried is the well known Purdue Mixture. This mixture is made up of equal parts by weight of hominy feed, linseed meal, red dog flour and dried blood. It is fed as a slop, being mixed in the ratio of one part meal to seven parts warm water."

How to Tell a Good Cow

The way to tell a good cow is by her performance. The milk scale and record cards are, of course, the only absolutely reliable means of finding out her real producing ability, but when records are not available the cow's shape or conformation may furnish a fairly good indication of her value. The main points to look for in a good cow are:

- (1) Large size and dairy temperament.
- (2) Good udder development.
- (3) Large feed capacity.
- (3) Strong constitution.

Large Size and Dairy Temperament

Usually the larger the cow the better the producer. But along with large size she must have dairy type. This type or dairy temperament



A deep full chest gives lots of room for the vital organs and for large lung development. These are important in keeping her strong and healthy.

For Dairy Temperament

Wedge-Shaped body.

Clean cut sharp withers.

Prominent hooks and pinbones.

For Feed Capacity

Long deep barrel.

Well sprung ribs.

For Dairy Capacity

Large well shaped udder.

Udder veins.

Large crooked milk veins.

For Strong Constitution

Large open nostril.

Deep wide chest.

Mellow hide.



There is a reason for every one of the desired points in good dairy type.

indicates that she will turn feed into milk rather than into beef. The cow should be wedge-shaped throughout. Viewed from the side this imaginary wedge starts at the head and widens to the rear with a deep barrel and a large udder. From the top a wedge should start at the withers and widen back to broad hips and from the front it should start at the withers and widen into a deep full chest. The withers should be sharp and the hips and pinbones prominent. She should be clean cut all over, not poor and thin, but just showing a lack of beefiness.



A large well shaped udder like this just can't help making lots of milk, and notice those large long milk veins!

Good Udder Development

The cow is a milk making machine so the most important single point about her is the udder. It should be large and with all quarters evenly balanced. It should attach high in the rear, be level on the bottom and extend well forward. A soft, pliable udder is highly desirable. The large blood veins on the belly (often called milk

veins), and the veins on the udder indicate good blood circulation. The blood carries all the milk making materials from the stomach and intestines to the udder, where they are unloaded, and it then goes back to the heart through these veins. Consequently, the larger and more crooked all these veins are, the better.

Large Feed Capacity

If a cow has a good udder and good milk ability she must have a large feed capacity to enable her to eat and digest enough of the milk-making material. It takes a large barrel to handle the large amount of feed necessary to make this milk.



Here's room for a "barrel of feed" and it takes feed to make milk.

The cow should be long from shoulders to hips and very deep bodied. The ribs should be well rounded or "well sprung" like a barrel. Flat ribs or slab-sidedness cuts down the feed capacity greatly.

Strong Constitution

A cow may have size, milk capacity, and feed capacity, but she also needs a strong constitution to enable her to withstand disease, and to stand up year after year under the hard work of heavy milk production and reproduction. It is indicated by a deep, wide, full chest; a large, open nostril; and a rugged, healthy condition throughout. A



The wedge shaped cow is the dairy type. This wedge has its point in front of the cow and widens to the rear.

bright eye, alertness, and a soft, pliable skin with silky hair are other indications of good condition.

Use this Cow Book! Many Cow Chow users tell us they always take it along when they buy cows. It's easier to judge a good cow when you have the dope right in front of you.

Note: The cow used in these illustrations is Sociable Sybil, one of the greatest Jersey cows of all time. Cow Chow fed for 4 years.

Common Ailments of Dairy Cattle

Call a Veterinary

When a cow is seriously ill a first class experienced veterinary should be called at once. The following suggestions will help you recognize serious troubles and in many cases show you what to do before the veterinary arrives.

They are not offered to take the place of a veterinary but to give you a few practical pointers that will be helpful on every farm.

Udder Troubles

Milk Fever

When It Occurs

Milk fever is an ailment of well nourished heavy milking cows, and occurs at calving time or within 2 or 3 days after calving. It is caused by decomposed substances from the first milk (colostrum) being absorbed into the blood, and once an animal has had milk fever she is more susceptible to it at future calvings. First calf heifers are rarely affected.

What It Looks Like

The cow becomes nervous, unsteady and finally is unable to stand. She will lie on her breast bone with head around on her side and may become unconscious in this position.

What To Do For It

Keep her propped up in this position and pump up the udder tightly with air at once. Milk fever can kill quickly or be cured quickly so a milk fever outfit should be kept on hand. It consists of a small air pump, a sterile milk tube and an air filter. When pumped up tie the teats and inside of 2-5 hours the cow should be up on her feet again.

How To Prevent It

Make sure the cows are in good laxative condition before freshening, but watch her closely if she has had it previously.

Garget

What Causes It

It is due to an inflammation of the udder which may be caused by freshening, bruises on the udder, exposure to severe weather, infection, or improper feeding and milking.

What It Looks Like

The usual symptom is a lumpy or stringy condition of the milk, with more or less swelling in the udder. The milk may also be bloody.

What To Do For It

Milk out thoroughly 2 or 3 times daily and bathe the udder in hot water each time to stimulate circulation. Massaging thoroughly using olive oil or a salve will help. Cut the feed in half and keep the cow in a laxative condition until the milk becomes normal again.

How To Prevent It

Give the treatment at the first sign of any swelling in the udder. Some cases are infectious and a gargety cow should always be milked last.

Cow Pox

Where It Comes From

Cow pox is a germ disease that confines itself to the teats and udder of the cow. It is infectious and can be spread through the herd on the hands of the milker.

What It Looks Like

Small pink pimples form on the udder and teats. These soon become blisters and when they break they excrete a sticky fluid clear at first and later it becomes puslike.

What To Do For It

Wash the udder with a milk antiseptic such as a $\frac{1}{2}\%$ Creolin solution every milking. Between milkings apply Zinc ointment to the sores.

How To Prevent It

Avoid chapping or chaffing the udder and teats. Avoid wet handed milking. If a cow does become infected milk her last.

Breeding Troubles

Abortion

Where It Comes From

Abortion may be due to mechanical injury or to an infectious disease. Cows may be injured by fighting, slipping in the barn or being jostled about and caused to abort, but it is best to regard all cases as infectious until proved otherwise.

What It Does

Abortion is the premature birth of the calf. It is most destructive as it not only causes the loss of the calf but it interferes with the milk production of the dam, deranges her general condition and leaves her prone to become sterile.

What To Do For It

There is no specific treatment known. Isolate the cow from the herd at once. Bury or burn the dead calf and afterbirth and thoroughly disinfect the quarters where she

calved. Flush the cow with a $\frac{1}{2}\%$ solution of Creolin or some other good disinfectant frequently and wait until discharges cease before replacing her in the herd.

How To Prevent It

Avoid rough treatment of pregnant cows, and don't expose them to mechanical injury. Prevention is the only relief from contagious abortion. Have newly purchased animals tested for abortion before bringing them into the herd. Isolate all aborters and practice rigid sanitation.

Retained Afterbirth

What Causes It

Sometimes cows which calve retain the afterbirth but most frequently it is the aborter that fails to clean properly.

How To Recognize It

A portion of the membrane is usually hanging from the vulva, or the discharge may contain bits of the membrane.

What To Do For It

Treatment consists in removing the membrane as soon as possible. It is best not to tear it loose, but get some $\frac{1}{2}$ oz. Vet Capsules filled with equal parts iodoform and boric acid. Insert 2 capsules after about 12 hours and a third about 12 hours later. If after 48 hours it has not been expelled call a Veterinary and have him clean her by hand.

Feeding Troubles

Calf Scours

Where It Comes From

There are two kinds of scours, (1) white scours which is a germ disease and is contracted through the naval cord at birth, and (2) ordinary scours which is a digestive disorder caused by overfeeding, irregular feeding or feeding from dirty buckets or in dirty quarters.

What It Looks Like

The calf has no control of bowel movement, and the excretion is watery and foul smelling. The calf soon becomes unthrifty and listless. Scours kill more calves each year than all other ailments combined.

What To Do For It

Cut the milk or gruel feed down to $\frac{1}{2}$ or $\frac{1}{3}$ the usual amount and give $\frac{1}{2}$ tea cupful of parafin oil. In bad cases add a few drops of turpentine, give oil daily till calf is relieved. Purina Calf Chow contains dried blood flour which is an excellent remedy and for this reason Calf Chow fed calves seldom have scours.

How To Prevent It

Have a clean stall for the cow to calve in. Disinfect the naval of the new born calf by painting it with Iodine. Feed milk or gruel at about body temperature. Don't overfeed, be regular, scald feeding bucket daily and give the calf clean, dry quarters.

Bloat

Where It Comes From

A sudden change from dry feed or fodder to wet green alfalfa or clover. Spoiled or frozen roots and feeds that ferment readily may cause bloat.

What It Looks Like

Gas forms in the paunch and distends the abdominal wall, particularly noticeable on the left flank. The animal stops eating and appears droopy with a quickened breath.

What To Do For It

In mild cases drench the animal with a quart of raw linseed oil. If the gas is not passed off and the condition becomes acute it is necessary to puncture the paunch at the most prominent part of the left flank midway between the last rib and the hook bone. A trocar and cannula are used but if not familiar with the operation a Veterinary had better be called.

How To Prevent It

Do not pasture cattle on wet, rank clover or alfalfa. Don't feed spoiled feed stuff and avoid too sudden change in feed.

Hay Impaction

What Causes It

Eating too much dry hay or dry grass without drinking enough water, overloading the paunch and lack of exercise may cause the feed in passing through the cow to become dry, hard, and packed so solid that a clogged condition results.

What It Does

It comes on gradually. The cow appears dull and listless, does not have normal passage of manure and the faeces are hard and caked.

What To Do For It

If cow is merely off feed, cut the ration in half and drench her with 1 to 2 lbs. epsom salts. If it is a bad case of impaction cut out feed entirely and give about 2 quarts raw linseed oil and 1 oz. Turpentine. After bowels move freely give her a warm wet bran mash. A rectal injection of warm soapy water is good.

How To Prevent It

Avoid overfeeding constipating feeds. Watch the droppings regularly as they are the best indication of the health of the herd. Purina Cow Chow and Bulky-Las are laxative feeds and will keep the bowels open. The molasses will keep them drinking plenty of water.

General Troubles

Foot Rot

Where It Comes From

Foot rot can come from dirty stalls and lots, where the animals are forced to stand in deep mud and manure continually.

What It Looks Like

It begins with an inflammation between the toes. A swelling is noticeable around the hoof and between the toes and the animal will limp. The swelling becomes hot and sensitive and a puss will form.

What To Do For It

Throw the animal and clean and wash the feet with a warm salt water. With a knife clean away all the dead decomposed tissue and apply powdered copper sulphate to the affected parts. One or two applications should check the trouble.

How To Prevent It

Dry lots and clean stalls.

Lumpy Jaw

Where It Comes From

This is a fungus disease and one source of infection is skin irritation resulting from rubbing on stanchions and feed boxes. Conditions that cause external wounds and bruises may bring on this disease.

What It Looks Like

A swelling on the jaw is the common symptom. The animal usually becomes unthrifty due to its inability to eat.

What To Do For It

Treatment is effective when the disease is confined to the soft structures of the lower and upper jaw. Local applications of iodine are beneficial. Accompany this with a drench of from one to three drachms of iodide of potassium in water daily until signs of iodine poisoning appear. This is indicated by a loss of appetite and a catarrhal discharge from eyes and nostrils.

Care of Cream on the Farm

The following money making dairy hints are given by the Blue Valley Creamery Institute.

It pays to take the best care of cream at all times, but especially in the summer when all surplus butter is in great demand for storage purposes. It is risky and unprofitable to store a poor grade of butter. Therefore, the best butter commands a much higher price than poor butter. That is the reason the price of good butter stays up in summer and the price of inferior butter drops lower and lower. Sometimes the spread is as much as 15 cents.

Dirt and High Temperature, the Cause of Poor Cream

A careful survey made by the Blue Valley Research Laboratory of farms that furnished cream of good quality and those that furnish cream of poor quality showed that over 90% of the cream of poor quality comes from farms that do not wash their cream separator after each separation and that do not cool their cream in water.

Cleanliness and low temperature are the controlling factors that determine the quality of cream. An unwashed separator will contaminate the cream of the next separation with millions of objectionable germs and high temperature of storage does the rest.

Remember that water cools the cream 21 times faster than does air.

Wash the separator after each separation by taking the bowl apart. Simply flushing the revolving bowl out with water is not enough. Remnants of cream, milk and separator slime and milk wash water will stay in it. These will ferment and foul the separator by the time it is used again.

Fitting Cattle for the Show Ring

It is true that clothes do not make the man, but a dressed up cow certainly has a big advantage over her unkempt stablemate when in a show ring. The process of fitting cattle should begin a couple of months before the show, when the animals should be given a grain feed and pastured only at night. Cows sunburn on pasture and by keeping them out of the sun the hair can be put in much better condition. For the grain feed, a mixture of half Purina Cow Chow and half Bulky-Las will smooth them out nicely, put the hair and hide in excellent condition and give them a snappy, alert appearance.

Begin at once to train them to handle easily. Take time every day to lead them around with a halter and teach them to stand properly. This is very important and should be started as soon as possible.

About a month before the show the hoofs should be trimmed, the horns rough shaped with a file and the animals blanketed. Blanketing mellows the hide and helps to make the hair lay smooth and silky. Daily brushing and grooming is very important from now on, and an occasional washing with tar soap is good.

Clip the tail, ears, foretop, udder and milk veins a few days before the show and finish off the horns. After being shaped with a file, smooth them with emery cloth, polishing off with pumice stone and sweet oil.

The night before the show wash all animals again and blanket them well over night. Just before going into the ring, groom and rub them thoroughly. Finish off with an oily rag, fluff the tail and lead them out.

Oscar Anderson, the man who developed Sociable Sybil, one of the greatest producers and show ring winners of the breed says, "Take your Cow



Part of the barn and some of the men who feed the Cow Chow and Bulky-Las at Riverview Dairy, Franklin, Va.



Ruth Regola Model Fayne

Owned by Flowerdale Farms, Dallas, Texas. This picture was taken just before freshening, after which she headed toward a state record, averaging well over 100 lbs. of butter a month. She gave 95 lbs. of milk a day 5 months after freshening. Flowerdale also has some fine Jerseys, all eating Cow Chow and Bulky-Las regularly.

Chow along with you. You can't afford to be changing from one feed to another. I have tried them all and I know it pays to take Cow Chow. Sociable Sybil, our seventeen times winner, has been fed on it for three and a half years. You can't get a grand championship at the National unless you have the right animal, feed her right, prepare her right and handle her right."

Fitting Cows for Official Testing

Fitting a cow for test simply means getting her fat and in a good, thrifty condition before the test starts. For a short time test, such as for 7 or 30 days, we want the cow to put on a lot of soft fat that will milk off readily when she freshens. This has a tendency to increase the per cent of fat in the milk for the short period of the test.

Have her dry for about eight weeks and feed her a ration of half Purina Cow Chow and half Purina Steer Fatena, or Bulky-Las, along with her regular roughage. Start the Purina slowly, feeding 2 to 4 pounds per day of this mixture. Increase this ration as rapidly as the cow will take it until she is getting 10 to 15 pounds per day but don't throw her off feed. The only rule is to feed according to the cow's appetite and fatten her as fast as possible. As much as 30 pounds per day of this mixture has been fed in some cases with excellent results.

The Cow Chow builds the cow's body and replenishes the proteins and minerals that are usually taken out of her body during a heavy milking period. The Steer Fatena is a steer fattening feed and makes ideal fat for test work. It puts on a firm fat, yet one which comes off readily. Both feeds are ideal conditioners, are laxative and put the hair and hide in good shape.

In preparing a cow for a yearly record we want to put on a firmer flesh that will not milk off so rapidly. Take a longer fitting period and do not

force the fattening so rapidly. A mixture of two-thirds Cow Chow and one-third Bulky-Las is better for this purpose.

Feeding Test Cows

With the cow in good condition, the next question is when to start the record. Usually records are started as soon as the rules permit, which is about one week after freshening, because at this time we are most likely to get the advantage of another test. The exact time, however, varies with the individual cow and the feeder himself must determine when his cow is on feed and right to start.

The ration should be higher in protein than for ordinary milk production and for this reason straight Cow Chow is the best concentrate to use even though you may be feeding alfalfa or other legume hays. The big point in test feeding is to give the cow all she will possibly eat and yet not throw her off feed. Feeding three or four times a day, you are safe in giving at each feed just a little bit less than she will clean up. This leaves her appetite on edge for the next feed. Increase the Cow Chow just as rapidly as the cow will take it and show an increase in the milk pail, but don't come up too fast! That's where she may be thrown off feed.

Watch Each Cow

No rule can be set as to the exact amount of Cow Chow to feed, but remember your object, maximum milk production, and watch your cow. In some cases of large cows making phenomenal records as much as thirty to forty pounds of Cow Chow per day has been fed with no harmful effects. The linseed meal and molasses in Cow Chow are both laxative feeds and make it safe to feed it in large quantities.

For the roughage use choice leafy alfalfa or good clover liberally. Silage is fed rather sparingly, it

being supplemented with other succulent feeds, such as soaked beet pulp, roots, or soaked Purina Bulky-Las. Feed about two pounds of dry Bulky-Las soaked at every feed. Bulky-Las is especially valuable because in addition to being palatable, succulent, and supplying the necessary bulk, this bulk is more "concentrated" than silage and furnishes more actual nutrients for milk production.

Yearly Tests

In feeding cows for yearly test work the problem is somewhat different than for short time records. There are 365 days of steady hard work ahead of the cow with no rests. It is not the aim to get maximum milk production the first month, but rather to bring her into her stride gradually and hold her there throughout the year. It is customary to take about a month to get the cow on full feed and to her peak of production.

Rations for yearly record work must be palatable and have variety to prevent the cows tiring of their feed. Cows love Cow Chow and with its eight different ingredients it has enough variety to keep them on it right through the testing year.

More Milk per Pound of Feed

Here's a handy feeding truck that pays for itself many times over. Some Cow Chow users tell us that it enables them to get a fourth of a pound more milk to every pound of feed or a fourth of a ton (500 pounds) more milk to a ton of feed.

Every one knows the value of feeding each cow according to her milk production, but no matter when you feed and milk, it's a busy time and it's the hardest time of the whole day to figure right down to the ounce of feed to give each cow. The truck pictured on page 74 has drawers on either side, which can be marked in chalk with each cow's number. The owner or manager can check over

the milk production every two weeks or so and write on the outside of the drawer, the amount of feed to be given each cow at each feeding. For instance, cow No. 28 may be giving 40 pounds a day on two milkings. She may have been fresh only a few weeks and will probably come up in her milk if the feed is increased gradually. If she gets seven pounds of feed at a feeding (fourteen pounds per day) it would be enough for 42 to 50 pounds of milk and two weeks later, the owner or



manager can check to see if she has come up. If not, the feed can be cut down a little, to hold her at her present level.

After the milk production is figured out for each cow and the drawers marked, the actual weighing and filling of each drawer with each cow's feed, can be done at any time during the day. Some users fill the drawers twice a day, others fill them



only once a day and use only part of the feed at each feeding.

If the feed is weighed out and the drawers filled at some time in the day when the work is not so heavy, it will be done much more accurately and on a large farm, where there are a number of feeders, it gives the owner a chance to check the feeding at any time by pulling out a few drawers and weighing them.

At one farm, where this truck plan is used, there are twenty-eight drawers to each side or fifty-six drawers in each truck and it was found that a feeder could weigh out the entire day's grain feed for fifty-six cows in less than twenty minutes. This same farm has averaged over 10,000 pounds of milk per cow per year on Cow Chow, and usually better than three and a half pounds of milk to each pound of grain feed.

Trucks like the ones described above can be purchased from the leading barn equipment factories.

Some Things You May Want to Know

What is your whole milk worth per gallon when you sell cream?

Test of Milk	Value Per Gallon with Pound of Fat at								
	30c	35c	40c	45c	50c	55c	60c	65c	70c
%	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
3.00	7.7	9.0	10.3	11.6	12.9	14.2	15.5	16.8	18.1
3.25	8.4	9.8	11.2	12.5	13.9	15.3	16.7	18.1	19.5
3.50	9.0	10.5	12.0	13.5	15.0	16.5	18.1	19.6	21.1
3.75	9.7	11.2	12.9	14.5	16.1	17.7	19.3	20.9	22.5
4.00	10.3	12.0	13.8	15.5	17.2	18.9	20.6	22.4	24.1
4.25	10.9	12.8	14.6	16.4	18.2	20.1	21.9	23.7	25.5
4.50	11.6	13.5	15.5	17.4	19.3	21.3	23.2	25.1	27.1
4.75	12.2	14.3	16.3	18.4	20.4	22.4	24.5	26.5	28.6
5.00	12.9	15.0	17.2	19.3	21.5	23.6	25.8	27.9	30.1
5.25	13.5	15.8	18.0	20.3	22.5	24.8	27.1	29.3	31.6
5.50	14.2	16.5	18.9	21.3	23.6	26.0	28.4	30.7	33.1
5.75	14.8	17.3	19.7	22.2	24.7	27.1	29.6	32.1	34.6
6.00	15.5	18.1	20.6	23.2	25.8	28.4	31.0	33.5	36.1

Find your test in the first column and then run your eye across the line until you come to the column showing your price for butterfat.

Example: If your milk tests 4.5% and you are getting 50c per pound for butterfat you are getting paid at the rate of 19.3c gal. for your milk.

If you sell milk by the quart and want to figure its value per 100 lbs. multiply your price per quart by 46.5 (there are 46.5 quarts in 100 lbs.)

Example: Milk at $6\frac{1}{2}$ per quart. $6\frac{1}{2} \times 46.5 = \3.02 per 100 lbs.

What is Your Skim Milk Worth?

100 lbs. of skim milk is figured roughly at the value of $\frac{1}{2}$ bu. corn.

Example: Corn is worth 80c bu. Then skim milk is worth about 40c per 100 lbs. If your milk tests 4% and your separator makes 40% cream that means that every 10 lbs. cream will contain 4 lbs. butterfat. If butter fat is worth 50c per lb., then you get from every 100 lbs. milk:

10 lbs. cream containing 4 lb. fat @ 50c	= \$2.00
90 lbs. skim milk @ 40c	= .36
100	\$2.36

Average Butterfat Test of Different Breeds

Jersey	5.35
Guernsey	4.98
Brown Swiss	4.24
Shorthorn	4.05
Ayrshire	3.66
Holstein	3.45

—Henry & Morrison, *Feeds and Feeding*.

Why Milk Tests Vary

A cow's milk may vary in test from day to day as much as one per cent, sometimes for no apparent reason at all. There are, however, a number of things which may cause a temporary change in test, such as,

A sudden change in weather.

A sudden change in feed.

Excitement and irritation.

A change in surroundings.

A new milker.

The stage of lactation has a decided effect on the per cent of fat. The test increases with the length of time since freshening, the most rapid rise being in the last two or three months of the milking period, particularly with cows that are heavy in calf.

There is a belief that mature cows test higher than heifers. Hoard's Dairyman says "A heifer having a poor test is sometimes excused on the grounds that she will do better when mature. Investigations show there is no ground for such a belief. The facts are that the richness of the milk

is a matter of inheritance and is fixed before the animal is born. Nothing can be done to change it it."

Why Cream Tests Vary

Before laying all the blame on the creamery for the changes in your cream test read this over. Here are a number of things that may cause a marked variation in your test.

1. ***Regulation of Cream Screw or Skim Milk Screw.*** Most separators have a device called a cream screw or skim milk screw which can be regulated to give cream of any desired richness.

2. ***Speed of Machine.*** The faster the bowl revolves the richer the cream. The slower the bowl revolves, the thinner the cream. Follow the rules for operation of the machine.

3. ***Temperature of Milk.*** The temperature of milk should be as near 90 degrees Fahrenheit as possible when separated.

4. ***Rate of Inflow of Milk.*** The faster the milk flows in, the thinner the cream will be and vice versa.

5. ***Richness of Milk.*** Milk rich in butter-fat will yield a richer cream than thin milk.

6. ***Cleanliness of Milk and Separator.*** Dirt or foreign matter in milk clogs up the machine and there is sure to be a variation in the test. The bowl should be washed each time after being used.

7. ***Amount of Water or Skim Milk Used to Flush the Bowl.*** The more water or skim milk used in flushing the bowl the thinner will be the cream.

8. ***Variation of Machine.*** If the separator is not set level on a solid foundation, there will be vibration and a consequent variation in the test.

Can You Raise the Fat Test in Milk by Feeding?

No!

There are more discussions and misunderstandings about this point than any other in the milk industry.

Hoard's Dairyman says "The feed will not cause a permanent variation in test. It may account for a fluctuation in test but the average test of a cow will be the same for the year's period, practically independent of what kind of feed she may receive."

Henry & Morrison on page 351 of their 18th edition of *Feeds & Feeding* say "We now know that if the cow received sufficient nutrients to maintain her body weight, the percentage of fat cannot be materially altered for any long period of time by greater or less liberality of feeding or by supplying any particular kind of feed. Cows starved or greatly underfed may produce milk somewhat lower in fat than normal. Some feeds, as cocoanut meal, for example, apparently often cause a slight increase in the fat percentage of the milk, which may be more or less temporary. Up to the present there is no positive evidence of any continued specific effect of a feed in stimulating milk production or increasing the percentage of fat. It is not the body of the cow or the digestive tract, but the glands of the udder which determine the characteristics of the milk yielded by each individual cow. This is what we should expect, for if milk varied with every slight change of food and condition, the life of the young, dependent on such milk, would always be in jeopardy."

\$1000 Reward

To the First Cow Owner
or Other Person Who Will Show Us
A Feed That Will Permanently Increase
The Percentage of Butterfat in Milk

If you have, or know of, a feed that will raise the fat percentage permanently and can demonstrate it to the satisfaction of your own State Experiment Station, and our chemists, we will be glad to pay one thousand dollars, (\$1000) in cash.

For further details, write Dairy Chow Department, Purina Mills, St. Louis, Missouri.

This offer expires July 1st, 1927.

But You can Change the Amount of Cream or Butter

This comes from getting *more milk* and is governed largely by the amount and kind of feed. Purina Cow Chow makes more cream and butter because it makes more milk. The rule as laid down by all authorities is—

Breed for quality—Feed for quantity.

Apparent Changes in Per Cent of Fat

Feed does affect the color of milk and a deeper yellow color is often mistaken for a richer milk. However the yellow does not always mean a higher per cent of butterfat, for under certain conditions very rich milk may be almost white.

Missouri Experiment Station Circular 74 says this yellow color comes from "carotin," a yellow pigment found in green feeds. The feed as well as the breed makes the color so when carotin-rich feeds are fed a more yellow milk will be produced.

These are carotin-rich feeds—

Green pasture grass

Bright green hay

Green corn fodder

Soiling crops

Very new corn silage

Here are some carotin-poor feeds—

Hay that has lost its green color in curing
Corn fodder

Straw

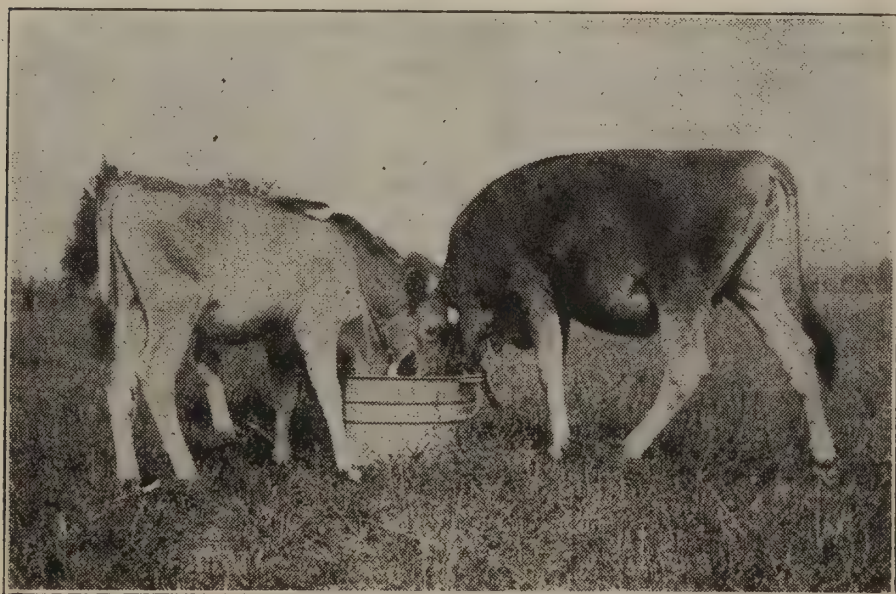
Old silage

Dry grains such as corn and wheat, Mill
products such as Bran, etc.

Other feeds affect the firmness of the butter. Cottonseed meal, for instance, makes a hard butter while Linseed oil meal makes a soft butter. Purina Cow Chow has the different ingredients blended to make a butter of the right hardness and color.

How Fast Does a Cow Drop Off in Milk?

That depends largely on her breeding and how well she is fed. Prof. C. H. Eckles says "Certain cows as a result of inheritance do not hold up in milk as well as others do. The important relation of feed should also be emphasized. Too often a cow is said to lack persistency when she really is doing all she can with the feed received."



Do They Like It?

Purebred calves owned by Mr. Roper Raines, Bowling Green, Va.
It's Calf Chow they're after.

When Will My Cows Come Fresh?

Write the cow's name after the date on which she was bred.

The opposite date is when she will calve.

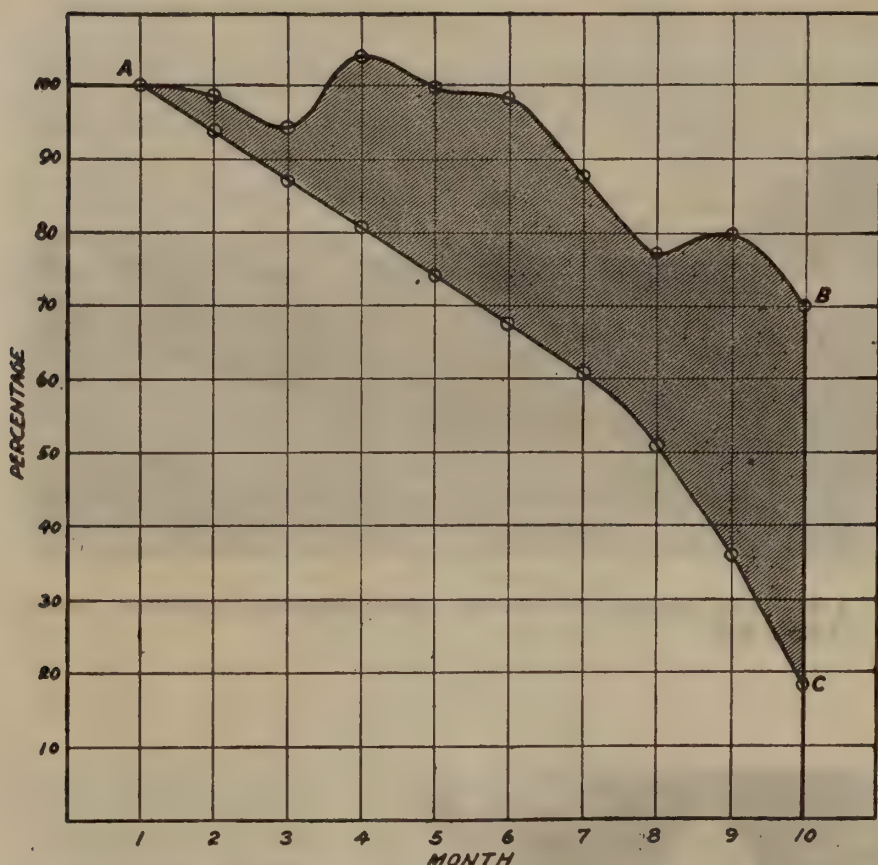
Date Bred	Will Calve	Date Bred	Will Calve
Jan. 1	Oct. 8	July 5	April 12
" 6	" 13	" 10	" 17
" 11	" 18	" 15	" 22
" 16	" 23	" 20	" 27
" 21	" 28	" 25	May 2
" 26	Nov. 2	" 30	" 7
" 31	" 7	Aug. 4	" 13
Feb. 5	" 12	" 9	" 17
" 10	" 17	" 14	" 22
" 15	" 22	" 19	" 27
" 20	" 27	" 24	June 1
" 25	Dec. 2	" 29	" 6
Mar. 2	"	Sept. 3	" 11
" 7	" 13	" 8	" 16
" 12	" 18	" 13	" 21
" 17	" 23	" 18	" 26
" 22	" 28	" 23	July 1
" 27	Jan. 2	" 28	" 6
April 1	" 7	Oct. 3	" 11
" 6	" 12	" 8	" 16
" 11	" 17	" 13	" 21
" 16	" 22	" 18	" 26
" 21	" 27	" 23	" 31
" 26	Feb. 1	" 28	Aug. 5
May 1	" 6	Nov. 2	" 10
" 6	" 11	" 7	" 15
" 11	" 16	" 12	" 20
" 16	" 21	" 17	" 25
" 21	" 26	" 22	" 30
" 26	Mar. 3	" 27	Sept. 4
" 31	" 8	Dec. 2	" 9
June 5	" 13	" 7	" 14
" 10	" 18	" 12	" 19
" 15	" 23	" 17	" 24
" 20	" 28	" 22	" 29
" 25	April 2	" 27	Oct. 4
" 30	" 7		



**A few fine Jerseys owned by Lem Scoggins, Lubbock, Texas.
Cow Chow fed.**



Oscar (Shorty) Anderson at his new headquarters at King Ranch, Texas. Andy was glad to find that he could get Cow Chow and Bulky-Las in Texas the same as at Inderkill Farm in New York where he handled Sociable Sybil.



The shaded portion is the difference in milk production after calving between an average cow and a Cow Chow fed Champion.

The average cow will drop down about $1/12$ in her production every month up to the 7th or 8th month. From then on the decline is much more rapid.

The lower line on the above chart shows this very well.

A well fed cow does not drop off in milk nearly so fast! Notice the upper line on the chart. It represents the rate of decline of Queen Carlotta DeKol, a Cow Chow fed Holstein. The shaded portion represents extra milk gained by not letting her drop off as fast as the average cow.

A feed that will hold up a cow that has been fresh several months is doing well when you consider that cow would ordinarily be falling off about $1/12$ per month or more

Sheep Feeding

Sheep use a coarse feed better than any other animal and they don't want their feed too concentrated. A good sheep feed must also be succulent. Purina Bulky-Las meets every one of these requirements and makes an ideal sheep feed when fed with beans or peas, or Cow Chow to supply the protein. Purina Bulky-Las contains wheat bran with additional palatability from the molasses. Beet pulp gives it succulence and alfalfa makes it high in lime resulting in a large strong frame for market lambs and older sheep. It also keeps the ewes teeth in good condition. With silage there is always a chance of getting some mold which is very dangerous to sheep. Purina Bulky-Las eliminates this danger.

For Breeding Ewes

During the late fall and winter keep the breeding ewes on an average of from 1 to 1½ lbs. of Cow Chow per head per day according to their condition. A week after lambing slowly increase up to 2½ lbs. A little O-Molene or Bulky-Las fed with Cow Chow makes the best mixture under these conditions. This takes care of the protein and mineral requirements and produces an abundant milk supply which results in bigger and healthier lambs.

For Growing and Developing Lambs

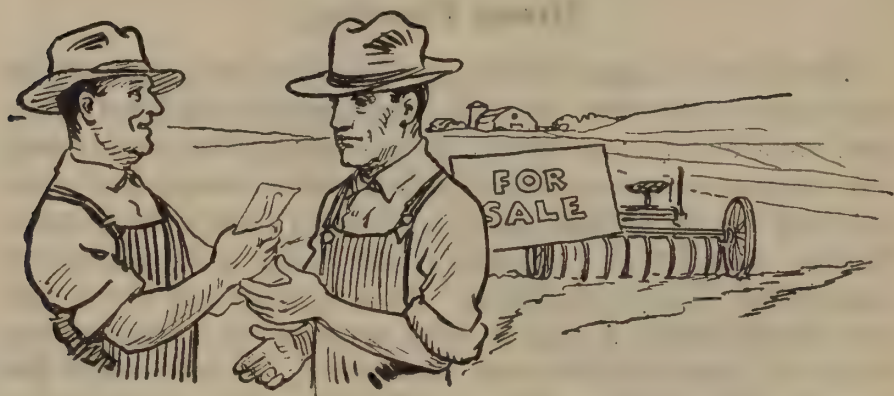
For young lambs, as soon as they will eat, start them on Bulky-Las, and beginning at about 4 months old they should be given a little higher protein which can be obtained by mixing beans or peas with Bulky-Las, or Cow Chow with Bulky-Las, half and half.

Fattening Lambs

When ready to fatten reduce the Cow Chow slowly and feed Purina Steer Fatena either straight or half and half with home grains, preferably barley

Cow Chow for Milk Goats

Feed a pint of Cow Chow morning and night to does before kidding, after kidding, gradually increase the feed as the milk flow increases until you are feeding a quart of Cow Chow to every quart of milk. Dampen Cow Chow when you give it to goats the first time.



To Bind the Bargain

When you make a bargain with a man and he puts up some money to bind it, you know that he's pretty apt to live up to his part of the agreement. You'd rather make a deal like that than one where you have no assurance that the other man will carry through his part.

When you buy Cow Chow, the Purina Mills, and your Purina dealer undertake to give you, from the checkerboard bag, more milk per cow or the same amount of milk at less feeding cost. Did you ever stop to think that the money spent to advertise Purina is really spent to bind the bargain on the part of the Purina Mills? That is, their advertising money is really put up to assure their giving you satisfaction. If you are not satisfied with Purina, they lose the money they spent in advertising.

Advertising is invested to get *future* business. Future business can come only from satisfied users of Purina. If a firm spent money advertising a product that didn't satisfy the user, he would quit that product mighty quickly, and it would be mighty easy for him to quit it because their name would be all over every package, and he would make sure not to use their feed. The checkerboard is printed plainly on every bag of Purina. No other manufacturer can use that trade mark,

and if it's in a new checkerboard bag it's from a Purina mill. If it doesn't satisfy you, you won't buy Purina in the *future*, and the money spent in advertising will be wasted. Isn't it a mighty satisfying feeling to know that the biggest feed organization in the world is increasing its business by advertising, and thereby putting up more and more money to bind its part of the bargain to the users of Purina, that is, to give you entire satisfaction with every checkerboard bag.

Does Advertising Raise the Cost?

With the tremendous volume of Purina, advertising can be bought for one fourth or one fifth of the ordinary cost. Two or three cents per bag covers the entire advertising cost on Purina Cow Chow. The tremendous volume from this advertising, plus Cow Chow quality, enables Purina Mills to run full time—frequently over time. A certain number of sacks must come from the automatic scales every minute. Carloads of raw material, already checked by the laboratory, are switched in, weighed, unloaded, filled with Chows in checkerboard bags and switched out again. Sometimes a railroad switch into a Purina mill will be loaded and emptied five or six times a day. At one Purina mill the loading facilities cover one fourth of a mile. For every two or three cents spent in advertising the manufacturing cost is cut 25c to 50c.

This added volume means greater facilities for improving Purina Chows and putting more money into the pockets of Purina users. Tests on new raw materials are carried out which, spread over the hundreds of thousands of tons of Purina Chows manufactured every year cost practically nothing per bag, but which put thousands of dollars into the pockets of Purina users.

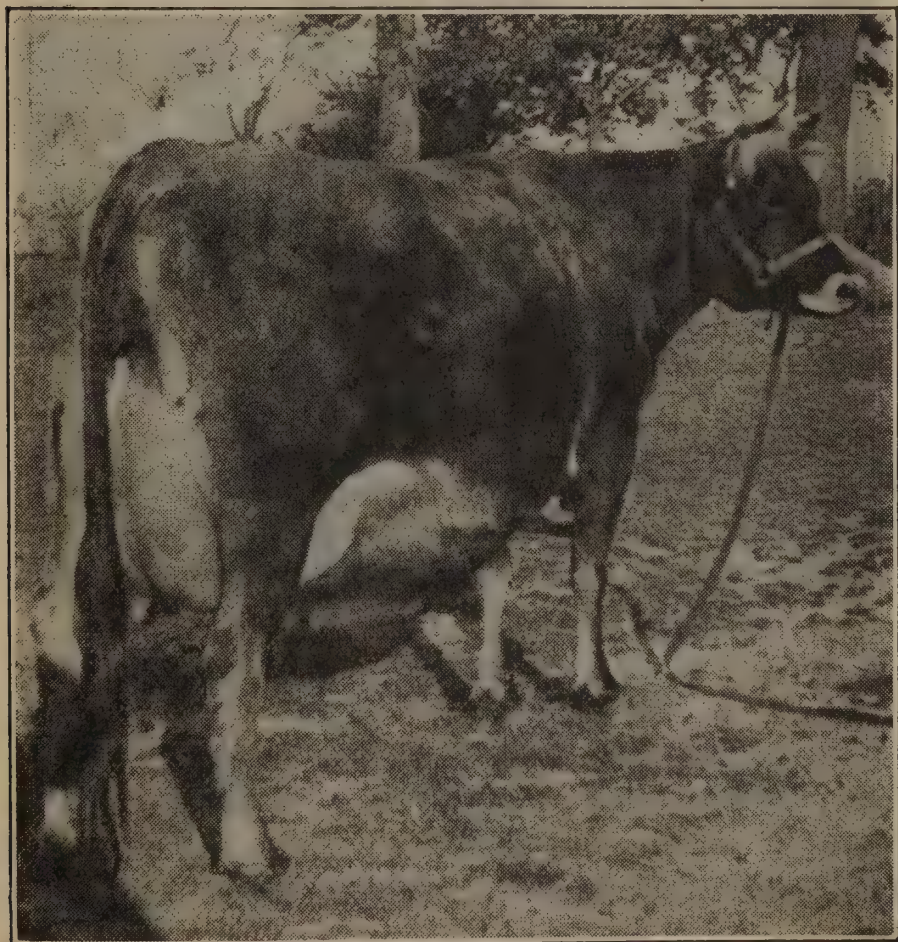
Then Why the Difference in Price?

The main difference in price between Purina and ordinary feeds, is the quality of the ingredients. Any grain market will show every day several different prices on different raw materials. There will be one price for 43% cottonseed meal of extra quality. There will be other kinds of cottonseed meal for sale, made of seed damaged by rain in the field and lower in palatability. There may be other cottonseed meal offered that has been slightly burned in the oil mill, that is not only less palatable but less digestible. The same applies to other raw materials. Purina *might* make money for a few weeks or a month by buying low grade material, but they *can't* do that because of the money they have invested in advertising, which will be a good or bad investment according to the future demand for Purina Chows.

It's certain that 33 years of experience in feed milling would enable a manufacturer to *know* how to make feed to get the best results. Money spent in advertising means that it would be mighty bad business not to use that knowledge to make the very best possible feed that could be made. If at any time, after using Purina according to directions, you are not satisfied, we will be very glad indeed to have you write us, because the biggest asset we have is the 40,000 satisfied dairy-men who feed Cow Chow every year, and whose numbers are growing. Advertising means big volume—big volume means lower milling cost and greater facilities for increasing the quality of the product. Advertising binds the bargain for you when you buy Purina.



Black and whites owned by Cole & Sons, California, Mo. Purina fed, cow testing association leaders.



Pure bred Jersey, Purina fed, owned by Chas. L. Daves, Ft. Smith, Ark.



The Cheapest Way to Buy Purina

This little sign, which some restaurants have been posting lately, contains a mighty valuable thought for the buyer of feed. The restaurant is the place to buy meals, the feed store the place to buy feed, and the bank the place to buy credit.

One service that the feed man can't give you as cheap as you can buy it at the bank, is credit. The banker is equipped to sell credit to you cheaper than the feed merchant. Paying 8% interest at the bank means that you can buy from the banker the credit necessary to pay for a ton of Cow Chow for about 35c a month. No feed dealer can sell you credit as cheaply as that and he would a whole lot rather that you bought your credit at the bank and paid him cash. You will save money on your Cow Chow and you will find that your banker will be glad to co-operate with you when you show him that you are producing milk on a sound basis and how much cheaper you can buy your Cow Chow that way.

A retail dairyman can't sell milk in bottles delivered to the user's doorstep with all the expense of cooling, bottling, bottle washing, breakage, delivery, and collection at the same price as the milkman who delivers a can of bulk milk to the restaurant. Neither can the feed dealer sell you a few bags of Cow Chow out of his warehouse for credit as cheaply as he can sell it to you cash off the car. When you take your Cow Chow off the car for cash you save the Purina distributor the cost of unloading the chow, storing it in his warehouse, insuring it, handling it again either putting it into his own truck or yours, and the cost of delivery. The Purina merchant will be glad to co-operate with you in letting you know when cars are coming in if you will let him know how much you want out of each car.

If there is no Purina dealer near you, and if there are enough feed users in your community to make up a car, write to any one of the Purina Mills, and they will be glad to see that you are supplied at the lowest possible price.

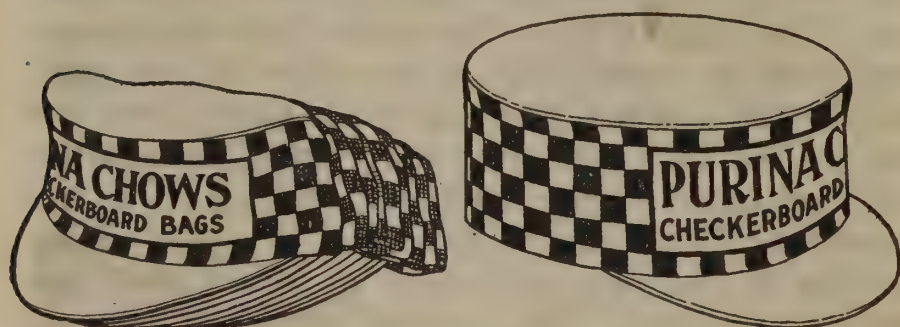
Get this Checkerboard Knife Free



This knife is of the very best quality, made by one of the oldest and largest manufacturers in the U. S. It will last a lifetime, and its checkerboard handle will always identify it as yours. Read below and on the next page how to get it.

or

Get Ten Checkerboard Milking Caps



These caps are of highest quality and will hold their shape indefinitely. You can get the ten caps, or the checkerboard knife, by selling two tons of Cow Chow to some neighbor who is not now feeding Purina. If you can't sell two tons to one neighbor, one ton to each of two neighbors will do.

— *Turn to the next page* —

How to Get the Checkerboard Knife or the Milking Caps

On this page are blanks to be filled in by you, the neighbor or neighbors to whom you sell Purina, and the Purina dealer with whom the order is placed. After they are all filled out, tear out this page and mail it to the Dairy Department, Purina Mills, St. Louis, Missouri, and your knife or caps will be sent.

Dairy Department—Purina Mills,
St. Louis, Missouri.

I have sold.....bags of Cow Chow
to.....
and.....bags of Cow Chow
to.....

Special 34% Cow Chow, Western States Dairy Chow,
Bulky-Las or Calf Chow count the same as Cow Chow.
The total must be for two tons.

PRINT YOUR NAME HERE.....

Post-Office Address.....

State.....

Write here whether you want
the knife or caps.....

I am not employed by any Purina distributor.

I have not used Purina Cow Chow during the past 90 days,
but at the solicitation of the person whose name is written
above, I have purchased and will use according to directions,
the number of bags of Purina set opposite my name.

Signature of Buyer.....No. Bags.....

Signature of Buyer.....No. Bags.....

The persons whose names are signed above have not used
Purina Cow Chow during the past 90 days, but have just
placed orders for the number of bags of Purina opposite
their names.

The person selling Cow Chow and ordering the knife or caps
is not employed by me.

Signature of Purina Dealer.....

Address.....

Have You a Dairy Council in Your Locality?

Dairy Council work is educational in nature, designed to promote health through a greater use of milk and dairy products, and other good foods.



Dairy Council work is conducted through the use of—

1. Plays in the Schools and Clubs.
2. Literature.
3. Films.
4. Demonstrations.
5. Exhibits of various kinds.
6. Radio Broadcasting.
7. Newspaper Publicity.
8. Lectures and stories.
9. Quality Improvement work.
10. Miscellaneous.

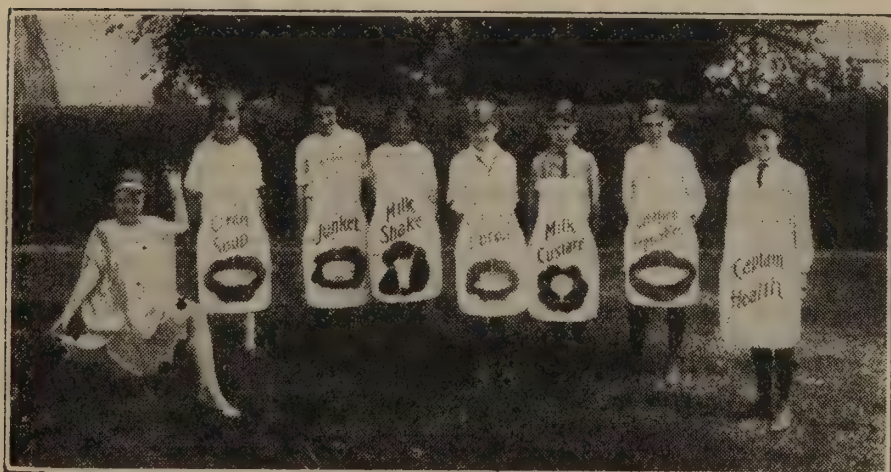
As a result of this and other educational work, milk consumption is increasing rapidly. During the past six years the consumption of all dairy products has gone up approximately 25% per person.



Milk consumption was 22 gallons in 1890, and only 23 gallons per person in 1899—now it is 55 gallons per person.

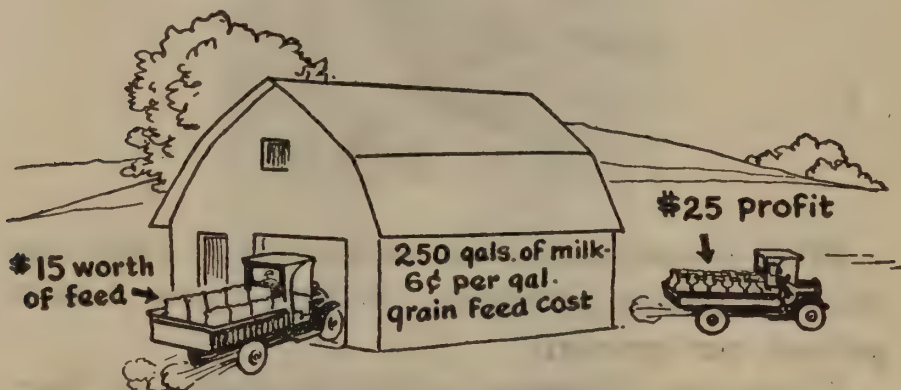
If you are interested, write the National Dairy Council, 910 S. Michigan Ave., Chicago, Ill.

The Purina Mills are regular cash contributors to the National Dairy Council work, and this space is donated to the Council free of charge.

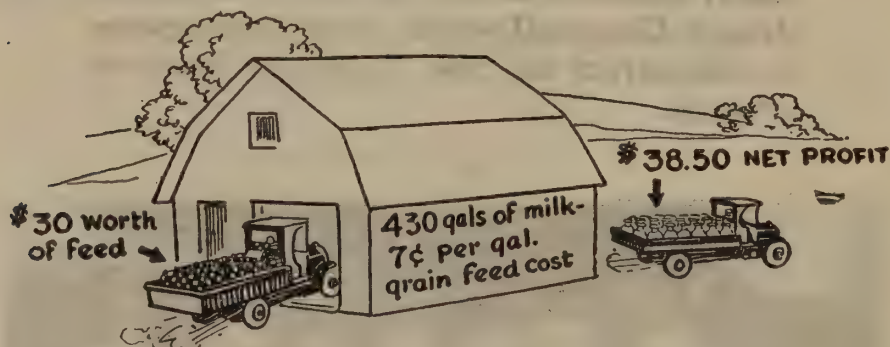


Grain Feed Cost Per Pound or Gallon or Total Income Over Feed Cost

The grain feed cost of milk production is a fairly good indicator of the value of a feed. But there is many a dairyman who has stood in the way of his own profit because he wasn't willing to increase his grain feed cost a fraction and turn out more gallons and make more total profit.



The man in this barn skimps on the feed bill. He uses "cheap" feed and his cost per gallon is low, only 6c. But he has only \$25.00 left when he pays for his grain feed. His roughage, overhead, and labor costs have to be scattered over only 250 gallons of milk, and his *total* cost per gallon is high.



This man has his eye on total net profit. He pays a little more for feed and his grain feed cost per gallon is 1c higher than his neighbor's. His net profit is larger because his roughage, labor, and overhead costs are spread over 430 gallons instead of only 250 gallons. His grain feed cost is slightly higher, his total cost production is considerably lower, and he makes a much bigger net profit per day.

Total income over feed cost is the final answer to the value of a feed and to successful dairying.

What Will Cow Chow Do for Me?

As you read this book, 40,000 cow owners are already making more money from Cow Chow. It paid them to change from their old feed to Cow Chow. They were willing to try something else if it looked reasonable, and now they're getting more milk per dollar's worth of feed.

Why not Start Now?

Write below the number of lbs., qts., gals. or cans of milk you get each day for 3 days.

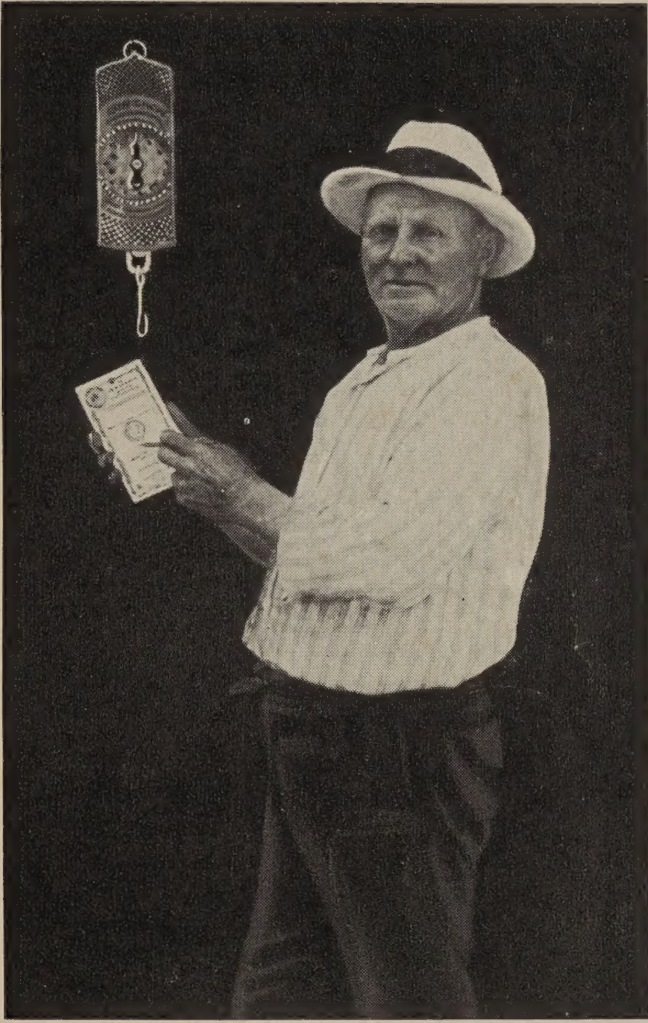
Write below the amount of grain feed used to get each day's milk or cream.

Date	Milk or Cream	Lbs. of Feed	Feed Cost
Total			

After 60 days on Cow Chow, according to the directions in the bag, write down the milk or cream you get each day and the feed used, just as you did at the start.

Date	Milk or Cream	Lbs. of Feed	Feed Cost
Total for Last 3 days			
Total for First 3 Days			
Difference in Milk		Difference in Feed Cost	
Value of Extra Milk			
Difference in Feed Cost			
Net Profit 3 Days			
Multiply by 10 to get Net Profit per Month			

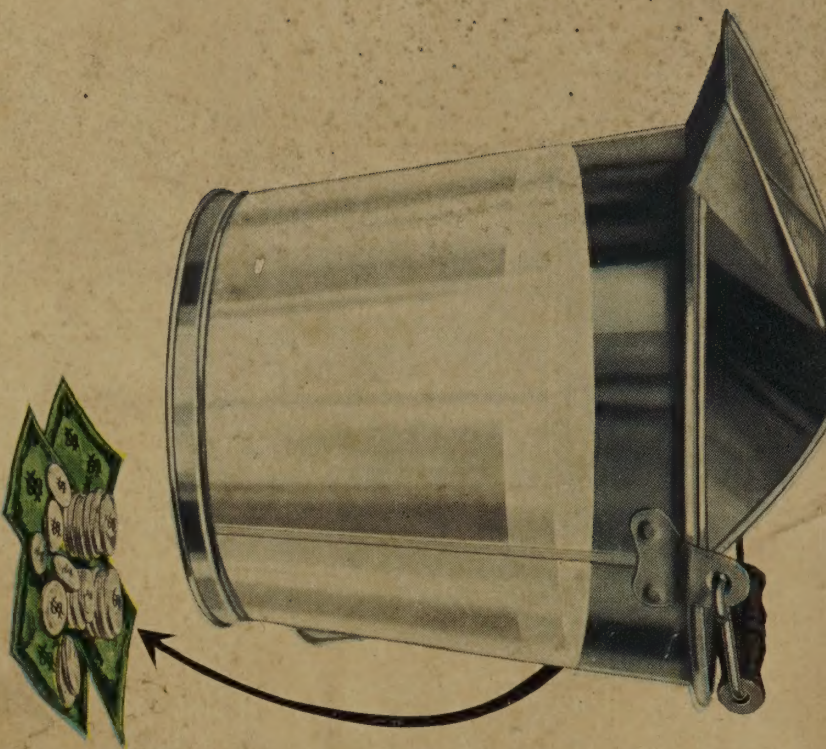
DID IT PAY YOU?
If not, we'd appreciate your writing us.



What's All This Rumpus About Feeds?

A man doesn't have to go to a fortune-teller or read the stars to find out what feed to use.

A pencil and a milk sheet, or pad of paper, tell me all I need to know about feed buying. And believe me, it's a whole lot more satisfactory buying Cow Chow on what it *does* for me, instead of buying feed on what somebody *said*.



How Much is the Extra Inch Worth to You?
LOOK INSIDE

Return Postage Guaranteed

PURINA MILLS, 835 S. Eighth St., St. Louis, Mo.